Arch P
Univ
I

UNIVERSITY OF ILLINOIS BULLETIN

ISSUED WEEKLY

Vol. XIX January 23, 1922 No. 21

[Entered as second-class matter December 11, 1912, at the post office at Urbana, Illinois, under the act of August 24, 1912. Acceptance for mailing at the special rate of postage provided for in section 1103, Act of October 3, 1917, authorized July 31, 1918.]

# UNIVERSITY OF ILLINOIS

Issued From The
HIGH SCHOOL VISITOR'S OFFICE

# PROCEEDINGS OF THE HIGH SCHOOL CONFERENCE OF NOVEMBER 17, 18 and 19, 1921

LIBRARY
SEP 29 1922
UNIVERSITY OF TORONTO

PUBLISHED BY THE UNIVERSITY OF ILLINOIS
URBANA

THE 1922 CONFERENCE WILL BE
NOVEMBER 23, 24 and 25

# UNIVERSITY OF ILLINOIS

Issued From The
HIGH SCHOOL VISITOR'S OFFICE

# PROCEEDINGS OF THE HIGH SCHOOL CONFERENCE OF NOVEMBER 17, 18 and 19, 1921

---

Edited and Compiled by the
High School Visitor

---

PUBLISHED BY THE UNIVERSITY OF ILLINOIS
URBANA
1922

Digitized by the Internet Archive
in 2008 with funding from
Microsoft Corporation

http://www.archive.org/details/reportofhighscho19univuoft

# CONTENTS


| | Page |
|---|---|
| Conference Committees | 6-7 |
| Statistics, 1920-1921 | 8 |
| Part I. General Sessions | 9-43 |
| Thursday Evening | 9-32 |
| President Kinley's Greeting | 9 |
| Frontiers of High School Development, H. A. Hollister | 9-16 |
| Report on Objectives, L. W. Hanna | 16-32 |
| Friday Evening | 32-42 |
| Education for Personality, E. C. Hayes | 32-35 |
| Education and the Industries, Arthur Pound | 35-42 |
| Part II. Section Meetings | 44-401 |
| 1. Administrative Section | 44-70 |
| Minutes | 44 |
| Report of Committee on Extra-Curricular Activities, Silas Echols | 45-48 |
| Discussion of Report, L. W. Hanna | 48-49 |
| Report on Teachers' Part in Administration, G. J. Koons | 49-53 |
| Discussion of Report, E. P. Nutting | 53-55 |
| Report on High School Records, Paul E. Belting | 55-68 |
| Discussion of Report, W. C. Baer | 68-70 |
| 2. Agricultural Section | 70-83 |
| Minutes | 70 |
| Methods of Study, E. H. Cameron | 71-73 |
| Problem of the Teacher of Agriculture in Non-Vocational High Schools, L. A. Moore | 73-75 |
| Retrospect in Agricultural Education, Eugene Davenport | 76-79 |
| Vocational Agricultural Teacher and his Twelve-Month Plan, C. S. Anderson | 79-83 |
| 3. Biology Section | 83-113 |
| Possibilities of a Required Course in High School Biology, George W. Hunter | 84-89 |
| Biology, Social Hygiene and Citizenship, Pearl T. Brown | 89-92 |
| Discussion of Professor Hunter's Subject, Julia E. Hindle | 93-96 |
| Elementary School Science as Factor in Solving High School Problem, H. D. Waggoner | 96-99 |
| Further Discussion by Eva E. Huffman | 99-102 |
| Educational Measurements in High School Biology, Walter S. Monroe | 103-108 |
| Teaching First Aid in High School Physiology, B. Eva Hoehn | 109-112 |
| 4. Classics Section | 113-135 |
| Observations on the Teaching of Classics in Secondary Schools, H. C. Morrison | 113-116 |
| The Laboratory Method of Teaching Latin, C. Russell Small | 117-120 |
| Proceedings, Groups 1 and 3 | 120-126 |
| Notes on Miss Buhrman's Discussion of the Teaching of Caesar | 120-122 |
| Ways of Arousing and Holding Interest in Second Year Latin, Miss Case | 122-124 |
| Discussion | 124-126 |
| Progress of the Classical Investigation, H. L. Carr | 127-132 |
| Cum Movēmus, Commovēamus, Bessie M. Darby | 132-133 |
| Use of Latin Games in Teaching Latin, Ethel M. McBroom | 134-135 |
| 5. Commercial Section | 135-155 |
| High School Curriculum in Commercial Subjects, H. T. Scoville | 135-137 |

Page

Possible Breadth of a Commercial Education, Charlotte van der Veen . . . . . 137-142
Some Visualizations of Commercial Geography, A. L. Nichols . . . . . 142-145
Commercial Arithmetic, L. B. Parsons . . . . . 145-147
Aims and Methods of Teaching Bookkeeping and Accounting, J. L. Hunter . . . . . 147-151
English for Commercial Students, Miss Ada Maskrey . . . . . 151-155

6. County Superintendents' and Village Principals' Section . . . . . 155-166
Minutes . . . . . 155
Transfer of High School Pupils, J. C. Stoddard . . . . . 156-158
Transfer of High School Pupils, Edgar C. Pruitt . . . . . 158-160
Value of Illinois Tests, V. T. Smith . . . . . 161-162
Opportunity of the Small High School, E. H. Cameron . . . . . 163-166

7. English Section . . . . . 166-210
Outside Reading Interests of Boys and Girls, Essie Chamberlain . . . 166-183
Stimulating Interest in Outside Reading for the Grades, Lora M. Dexheimer . . . . . 184-187
Books Recommended for Widening the Geographical Horizon, Hazel E. Koch . . . . . 187-190
Objectives and Objectives, Eva Mitchell . . . . . 191-192
High-School—Classics—Surveys and Suggestions, Clara Hawks . . . . 192-201
Fundamentals in the Teaching of Better Speech, Charles H. Woolbert . . . . . 201-210

8. Geography Section . . . . . 210-224
Human Geography in the Illinois Ozarks, Clarence Bonnell . . . . . 211-215
The Teaching of Commercial Geography, W. G. Lathrop . . . . . 215-218
Geography in the Reconstructed High School, Anna Weller . . . . . 219-221
The Use of Topographic Maps in Physiography, W. O. Blanchard . . 221-224

9. High-School Library Section . . . . . 224-240
Minutes . . . . . 224-225
List of Biographies Giving Vocational Incentives . . . . . 225-229
U. S. Government Publications Classified by Departments for High Schools, compiled by Anna M. Boyd . . . . . 229-240

10. Home Economics Section . . . . . 240-255
Ideals of Home Making, Adah Hess . . . . . 241-243
Clothing Study for Girls, Emily Frake . . . . . 243-246
Meaning of Home, Miss Allen . . . . . 248-250
Home Economics in a Community High School, Miss Tiffany . . . . . 250-251
Nutrition Health Classes for Children, Elizabeth B. Scholes . . . . . 252-255

11. Manual Arts Section . . . . . 255-276
Minutes . . . . . 255-256
Content and Standardization of Mechanical Drawing, John Sharda . 257-259
The Mechanical Drawing Instructor and the Industries, A. B. McCall . . . . . 259-262
Standardizing of Mechanical Drawing, J. H. Hawkins . . . . . 262-264
The Shop Teacher at Work, A. M. Mercker . . . . . 264-267
Some Fundamentals, L. M. Cole . . . . . 267-272
Vocational Training at Mooseheart, F. G. Elwood . . . . . 272-273
Establishment of Part-Time Continuation Classes, Albert F. Siepert . . . . . 273-276

12. Mathematics Section . . . . . 276-307
Fundamental Principles of Algebra, R. L. Modesitt . . . . . 276-284
The Proper Amount of Drill in Algebra, Emma C. Ackerman . . . . . 285
Tests of Mathematical Ability, Edwin W. Schreiber and C. M. Austin . . . . . 286-287
Teaching Algebra Without Home Work, H. C. Wright . . . . . 287-291

Page
Discussion, Florence Morgan....291-292
Intuitive Geometry, G. A. Harper....293-296
Discussion, Mable Sykes....296-297
Testing Mathematics Teaching, Lida C. Martin....297-299
Discussion of the National Committee Report, J. T. Johnson....300-302
Further Discussion, Ruth H. Utley....303-306
Further Discussion, J. R. McDonald....306-307
13. Modern Language Section....307-318
Report on French Texts, Josephine C. Doniat....307-309
Hints on Foreign Study, Blenda Olson....309-312
Problems in Teaching Spanish, Edith Cameron....312-318
14. Music Section....319-338
Address of Welcome, F. B. Stiven....319-320
Music, the Curriculum, and Objectives, L. L. Carl....320-323
Accredited Music Courses in Illinois, J. Lawrence Erb....323-326
Music Memory Contest, Louise Bear....327-328
Band Music in High School, G. H. Wilkinson....328-331
Development of Instrumental Music, Otto E. Graham....331-333
Instrumental Music in High School, E. B. Brockett....334-335
Entertainment Circuits, Clara T. Dailey....336-337
15. Physical Education Section....338-355
How to Reach the Adolescent, Harry A. Miller....338-343
Physical Efficiency Tests, Major John Griffith....343-345
Modern Tendencies in Physical Education, Louise Freer....345-348
Organizing Athletics Among Girls, Ruth Glassow....348-352
Report Illinois High School Girls' League....352-355
16. Physical Science Section....355-377
Minutes....355
Advances in Chemistry of Nutrition, H. B. Lewis....355-357
Physical Foundations of Theory of Relativity, Jakob Kunz....357-359
Reaction of Project Method, Thos. M. Barger....360-362
Classification of Physics Students, John K. Skinner....362-364
Reference Reading in Physics, Willis E. Tower....364-365
Instructional Technique in Science, H. C. Morrison....365-369
Value of Valence, E. E. Rademacher....369-373
Chemistry Exhibit as a Project Review, W. F. Einbecker....373-377
17. The Social Science Section....377-401
Minutes....377-380
Shall We Return to General History?, O. L. Bockstahler....380-384
Discussion, Bertha Miller....384
Teaching the European War, Byne F. Goodman....385-388
Discussion, Marion McKenzie....388-390
Laboratory Work in History, Eva E. Martens....390-393
Definition of Civics, E. B. Lozier....394-396
Teaching Current History, Ruth Sandeson....396-399
Discussion, Laura F. Ullrick....399-401

# CONFERENCE COMMITTEES

| | |
|---|---|
| General Conference Committee: | H. A. Hollister, University, Chairman and Director of the Conference; J. Calvin Hanna, State Department, Springfield; H. V. Canter, University; C. E. Chadsey, University; E. C. Hayes, University; Wm. Harris, Urbana; W. W. Earnest, Champaign; (The above constitute the Executive Committee); R. G. Beals, Taylorville; I. E. Wilson, Pekin; Clarence Bonnell, Harrisburg; Sophronia M. Kent, Jacksonville; Stacey B. Irish, Evanston; G. E. Goforth, Cobden; H. De F. Widger, Charleston; Alyda C. Hanson, Chicago; Hannah Logasa, Chicago; Anna Belle Robinson, University; L. A. Tuggle, Danville; W. T. Felts, Carbondale; Josephine Doniat, Chicago; Mary Dodds Phillips, University; Ruth Glassow, Macomb; H. H. Radcliff, Decatur; M. L. Flaningam, Urbana. |
| Administrative Section: | R. G. Beals, Taylorville, Chairman; Silas Echols, Mt. Vernon; W. R. Spurrier, Princeton; J. O. Marberry, Rockford; H. B. Black, Mattoon, Secretary-Treasurer. |
| Agricultural Section: | I. E. Wilson, Pekin, 1924, Chairman; A. W. Newlin, Casey, 1922; Carl Colvin, Springfield, 1923; D. L. Reid, University, 1922, Secretary. |
| Biology Section: | Clarence Bonnell, Harrisburg, 1922, Chairman; R. H. Linkens, Normal, 1923; Geo. W. Hunter, Galesburg, 1924. |
| Classics Section: | Sophronia M. Kent, Jacksonville, 1923, Chairman; Fay Miller, Belleville, 1922, Secretary; Effie Case, Hinsdale, 1924. |
| Commercial Section: | Stacey B. Irish, Evanston, 1923, Chairman; Mrs. Frances G. Sullivan, Crystal Lake, 1924; Margaret Higgins, Joliet, 1922, Secretary. |
| County Superintendents' and Village Principals' Section: | G. E. Goforth, Cobden, 1922, Chairman; Charles H. Watts, Urbana, 1924; O. Rice Jones, Paris, 1923; W. A. Hough, Belleville, 1922; W. S. Booth, Springfield, Secretary. |
| English Section: | H. De F. Widger, Charleston, 1922, Chairman; Olive Bear, Decatur, 1922; Bertha Smith, Oak Park, 1924; Hazel E. Koch, Rockford, 1924; Alma Hamilton, Normal, 1922; Florence Crocker, La Salle, 1923; Nancy Lawry, Alton, 1923. |

| | |
|---|---|
| Geography Section: | Alyda C. Hanson, Chicago, 1923, Chairman; W. G. Lathrop, Johnston City, 1924; Flemin W. Cox, Urbana, 1922. |
| High School Library Section: | Hannah Logasa, Chicago, 1922, Chairman; Wilma Ponder, Maywood, 1923; Rachel Baldwin, Highland Park, 1923; Clara Hadley, Decatur, 1924; Ruth Sankee, Urbana, 1924, Secretary. |
| Home Economics Section: | Anna Belle Robinson, University, 1923, Chairman; Ruth A. Wardall, University, 1923; Kathleen Gaynor, La Salle, 1922; Helen Murphy, Decatur, 1922; Ethel Rose, Bement, 1924; Olla Johnson, Bloomington, 1924. |
| Manual Arts Section: | L. A. Tuggle, Danville, 1922, Chairman; F. F. Stables, Mt. Vernon, 1922; C. H. Dalton, Lovington, 1923, Secretary; Linder S. Wood, Bloomington, 1922; R. S. Condon, Decatur, 1923. |
| Mathematics Section: | W. T. Felts, Carbondale, 1922, Chairman; L. E. Mensencamp, Freeport, 1923; E. W. Schreiber, Maywood, 1924. |
| Modern Language Section: | Josephine Doniat, Chicago, 1924, Chairman; Blenda Olson, Macomb, 1922; John D. Fitz-Gerald, University, 1923. |
| Music Section: | Mary Dodds Phillips, University, 1922, Chairman; Mary Maguire, Alton, 1924; H. W. Seitz, Peoria, 1924; L. Louise Bear, Decatur, 1923; Mrs. Homer E. Cotton, Kenilworth, 1923; Mrs. Elizabeth McNair, Mattoon, 1922, Secretary. |
| Physical Education Section: | Ruth Glassow, Macomb, Chairman; Louise Freer, University, Secretary. |
| Physical Science Section: | H. H. Radcliff, Decatur, 1923, Chairman; S. Aleta McAvoy, Rockford, 1922, Secretary; E. H. Williams, University, 1923; E. D. Barber, Normal, 1923; J. A. Smith, Urbana, 1924; Rosalie M. Parr, University, 1924. |
| Social Science Section: | M. L. Flaningam, Urbana, 1923, Chairman; U. S. Parker, Quincy, 1924; P. V. B. Jones, University, 1922, Secretary. |

# STATISTICS OF HIGH SCHOOL CONFERENCE

## 1920-1921

| | 1920 | 1921 |
|---|---|---|
| Total attendance | 2600 | 2700 |
| Total No. registered | 2579 | 2588 |
| Total registration exclusive of University | 2481 | 2555 |
| No. Public High Schools represented | 527 | 518 |
| No. representatives of Colleges and Academies | 70 | 136 |
| No. representatives of Normal Schools | 36 | 29 |
| No. representatives of School Boards | 4 | |
| No. County Superintendents | 33 | 16 |
| No. representatives of Book Houses, etc | 18 | 33 |
| No. of High School Teachers whose expenses were paid in full | 475 | 527 |
| No. of High School Teachers whose expenses were paid in part | 744 | 635 |
| No. of High Schools represented by delegates whose expenses were paid in full or in part | 394 | 319 |
| Following is the registration by sections: | | |
| Administration | 312 | 386 |
| Agriculture | 103 | 73 |
| Biology | 96 | 115 |
| Classics | 181 | 183 |
| Commerce | 134 | 168 |
| County Superintendents and Village Principals | 178 | 92 |
| English | 399 | 418 |
| Geography | 26 | 25 |
| Home Economics | 199 | 228 |
| Manual Arts | 93 | 106 |
| Mathematics | 226 | 270 |
| Modern Language | 158 | 82 |
| Music | 87 | 70 |
| Physical Education | 39 | 48 |
| Physical Science | 131 | 100 |
| Social Science | 176 | 224 |
| No section given | 41 | |

# PART I

## GENERAL SESSIONS

### 1. Thursday Evening

The first general session of the 1921 High School Conference convened in the Auditorium of the University at 7:30 P. M. November 17. The entire program as published was presented. Dean C. M. Thompson of the College of Commerce and Business Administration presided.

President David Kinley was the first speaker. He extended a hearty welcome and greeting to the teachers present and felicitated them on the work they were doing. He spoke of the importance of the high school in modern education and of the close relationship which it bears to the work of our higher institutions of learning. The President pointed out to his audience how, as teachers and principals working together unitedly, they might do much to advance the interests of higher learning in the state. His address was impressive and timely and was received with interest and enthusiasm.

The second speaker was the Director of the Conference, H. A. Hollister, who gave his annual address as outlining the field for further work of the Conference. His theme was "**The Frontiers of High School Development After a Century of Growth.**" He spoke as follows:

This year of 1921 is the centennial anniversary of the establishment of the public high school in the United States. We are all familiar with the story of its inception in the City of Boston in 1821. Let us consider briefly what its growth has been since that date.

It began as a school for boys only, and its general character may best be described in the language of the School Committee Report to the Boston Town Meeting which was the call for its first establishment: "The mode of education now adopted and the branches of knowledge that are taught at our Engish Grammar School, are not sufficiently extensive nor otherwise calculated to bring the powers of the mind into operation nor to qualify youth to fill usefully and respectably many of those stations, both public and private, in which he may be placed."

Following the conception that found expression at that time in the grammar school this new type of public school was first called the English Classical High School, to distinguish it from the Latin schools which were the type of school maintained for college preparation. A little later the term *classical* was dropped leaving the name of English High School. This was a three year school with courses in English throughout and differing but little in general content from

the English courses of today except in the emphasis placed on formal rhetoric and on logic. In mathematics the courses began with arithmetic and followed with algebra, geometry, plane trigonometry, and applications in navigation, surveying and mensuration. The natural sciences offered were geography, natural philosophy and astronomy. In social and political affairs there were courses in ancient and modern history including that of the United States, chronology, and political philosophy. Moral philosophy was added in the field of ethics.

It was some years later that the Girls' High School came into existence with the early introduction of cooking into the curriculum. And in 1893 Boston established her first Mechanic Arts School. In the years intervening it may be said that the tendency seems to have been to try out many things previously considered as belonging to the domain of the college as materials possibly fitting for the instruction of youth in a better preparation for life and its duties.

Today we have the composite high school as the prevailing type with its wealth of offerings and limited prescriptions. The content of our literary and science curriculums has been fairly tested and is not altogether to our liking. The typical vocational lines of instruction have been provided, although not, as yet, to our full satisfaction. But the high school is at last coming to appeal to the many instead of the few, and to offer rather complete lines of development for those who can go no farther.

In the social organization of our secondary schools and especially in the organization of extra classroom activities we have made some worth-while progress. But in this field, also, there remains much to be attained.

From the beginning the development of the high school has been greatly hampered by traditions. Entirely aside from the adjustments which should naturally occur as our social order evolves, it may truly be said that we have not even to this day realized the ideal set up by the Boston fathers one hundred years ago.

It seems fitting, therefore, at this time, for us to consider in some detail what are the frontiers of high school development. This is all the more a necessity since your Director is charged with the general task of preserving those working qualities of this conference which alone furnish an excuse for its existence. It is toward these frontiers, I take it, that we should all be directing our thought and our endeavors for progress.

### 1. *What is a High School?*

The first question mark is suggested by the first step taken at Boston as above referred to. We have never yet satisfactorily answered this question. The Boston School Committee defined the high school by determining its content and its relationship to the schools

below. We have never improved upon this definition although we are still struggling with the latter part of it in our discussions and experiments with the junior high school.

The broadening of the scope of high school instruction together with our modern methods and efforts at standardization for purposes of transfer or scholastic advancement have brought about a demand for a definition of a different sort. One has only to undertake to define a high school under present conditions in order to discover how utterly inadequate are any of the definitions thus far proposed. We say it comprises the four or six years above the grade school; or it is composed of the ninth, tenth, eleventh and twelfth grades; or we define it as the first school was defined, according to the subjects to be taught. Yet all the time we are assuming, or trying to make ourselves and others believe, that the work accomplished in high school gets the individual pupil to some definite goal of achievement from which point he is ready to advance either vocationally or in further study in a higher institution.

And now we are beginning to discover that this is only hypothetical; that really our four years of work along certain lines of study and experimentation vary greatly as to results when we test the capabilities of pupils even of the same school, and that this variation may be still wider for whole groups of pupils coming from different schools or in different states.

The significance of this situation readily appears when we seek to transfer pupils from one school to another, as from one four year school to another or from two or three year high schools to fully organized, manned, and equipped four year schools. It appears again also when colleges or universities undertake to build their freshman work upon hypothetical achievements from courses given in high schools accredited for such college preparation. No high grade high school can, in justice to its home students required to meet certain standards as a basis for graduation, accept at par work done in a high school of greatly inferior quality as to the character of instruction offered. Neither can any college or university, established and supported by the public for higher education along professional lines, justify itself in receiving students who must do over again the work of secondary grade, thus limiting the efficiency of the institution in doing the task set for it at the same time that it entails a permanent handicap to the individual who is the innocent victim of such a situation. Surely it is full time that we should seek to determine when a high school is a high school in some maner related to the real achievement and aims of secondary education.

### 2. *Curriculum Readjustments*

It seems inevitable as we speak of the levels of high school achievement, that we must differentiate more widely as to curriculums. In

other words, the levels of achievement for different curriculums having in mind widely varying accomplishments as concerns the future of individuals, must ultimately be determined by differing criteria,—must be tested, in other words, according to their relationship to the particular ends in view and with relationship to the abilities of the pupils concerned. This is no more than saying that with the determination of different aptitudes we should be able to provide in our high schools for the preparation along widely varying lines of all youths of the high school age-level for those particular forms of social and industrial service for which they are by nature best equipped.

Such an aim in the further adjustment of our curriculums clearly means that the content as far as general mental training is concerned should be much more clearly differentiated than at the present time. This variation should involve both skill and knowledge; and the curriculums leading to college training should be as carefully differentiated as those leading to vocations involving chiefly skill and the applications of the more fundamental principles of science. But all these various classes should be trained to live their lives intelligently, honestly and with social effectiveness up to the very limit of the individual's carefully tested and corrected I. Q.

"But," I think I hear some one ask, "what about the student who finally decides, when graduation day comes, that he wants to go to college?" The answer to all such queries is, first, that all such persons whose general mental ability will permit *should take the necessary general training* and not a vocational or earlier turn-out course. This not merely in order to be prepared for college but also because our social order demands a liberal number thus trained in our high schools as social leaders in business and industrial groups. If, then, vocational preparation is still essential to their normal progress in life, it should be added, and, if necessary, by means of continuation school courses.

This is only another way of saying that we need to make life interests our objectives in education in a much more definite way than we have heretofore been doing. We need to teach English not so much for the sake of interest in classic literature alone but in order to read literature in the form of history understandingly; in order to be able to think in the language of the literature of science and economics. We need more direction of English work and less teaching in the sense of our present practice. English composition needs to be made a means of better expression of what our pupils are actually thinking about rather than a process of lifeless formality in writing on made-to-order subjects.

History should teach pupils primarily how they happen to be here in this particular social order, what our institutions came from and what they really mean among world forces, rather than a cursory survey of selected groups of facts and incidents in the lives of individuals and nations.

The teaching of science should enable the individual to interpret his natural environment of life and forces as related to health, safety, and the pursuits of industry, or at least be in the way of doing so by reason of trained faculties and ability to read in the common language of that class of material as representing human achievement and understanding in the realm of natural laws.

Mathematics should come to mean to the high school pupil increased facility in computation of quantity and of space relations, as well as increased constructive ability and precision, rather than merely the mastery of formulas without a reason, and the solving of problems in cold blood.

Vocational courses, when taught, should be so employed as to motivate the essential study of science and history; and the social activities of the school should motivate and exemplify constantly the fundamental principles of economics and the ethics of community living. These are the things already being exemplified to a considerable extent by the work in such schools as Lake View, Nicholas Senn, and Hyde Park in Chicago; the J. Sterling Morton Township High School at Cicero, the Township High School at Centralia, and many others.

3. *Organization and Internal Working of the High School*

All of the elements above discussed point directly to the general conditions in our high schools as regards internal organization, the supervision of instruction, and the methods of organizing and presenting the materials of education, and directing the more general activities of the school.

What preparation is best for the teacher of high school subjects? Who knows? Certainly a broad scholarship basis is necessary, coupled with ability to present materials clearly and with reference to definite life interests. Just as surely does the teacher need to be optimistic and imbued with the spirit of real service. This spirit was illustrated to me the other day by a student who is working his way through college. (Give the incident).

The great art of the high school teacher is the art of directing the study of her pupils. For this the recitation, the laboratory period, the library equipment, and the study period exist. It is not so much a matter of arrangement of study and recitation periods as it is the ability to plan and direct the process through all the above agencies. I am satisfied that there is a fundamental lack here in the most of our present practice in high school education.

An essential to success in this whole matter of instruction is the definite, effective supervision of it. Yet we have scarcely made a beginning as yet in this matter of the supervision of high school teaching. Principals spend most of their time attending to minor administrative details which might be dear at $1500 per year while they

are paid $3000 to $6000 for expert service which they are not permitted to perform and for which they are, for the most part, unprepared.

In the matter of organization of the materials of education, or the construction of curriculums as above referred to we are no better off. This Conference has already set for one of its problems and made some notable progress in undertaking to set up legitimate criteria for the determination of such curriculum organization. But this is not the work of a day or year. It must necessarily mean careful and deliberate procedure with a maximum of discussion and publicity in order to generate sufficient intelligent knowledge and sentiment to establish a working basis for the use of such criteria.

### 4. *Physical and Economic Problems*

A large and very important section of the frontier of high school development is that relating to the physical plant and to the general economics of high school maintenance. Our country is confronted today by an increased demand for education of high-school grade such as never before has occurred in the life of any nation. Every step in the broadening of the program by adding new curriculums means an increase in voluntary attendance. This movement has apparently just begun; and yet there are few, very few, of the high schools of Illinois whose physical plants are adequate for taking proper care of this increase. The rural communities are demanding high-school service as never before; and with the liberalizing of our tuition laws thus making high-school education free from any tuition charge to the individual, the children from the farms are literally crowding their way into the schools. These conditions together with the new emphasis placed on physical training, call for a large degree of expansion in both buildings and grounds.

Again, the broadening of the program of high school studies and activities has created a demand for a much varied planning and construction of buildings,—a problem in itself which calls for much study if we are to secure the most desirable and economic results in high school construction. How are we to treat the problem of equipment for agriculture and home economics? for shopwork, draughting, and commercial courses? for music and physical training? for a good working library? How are we to best arrange for study? for the general social features of high school life? for the lunch room, rest rooms, and the locker problem? Oh, yes, there are different ways of doing these things; but how are school authorities to know how to calculate for a given enrollment and the program proposed?

Then there is the problem of transportation. High school districts in both city and country must be relatively large in order to be economic as to the numbers to be served. How are we to equalize the burden of cost in transportation? Good roads are doing, will do. much; but there will still remain a problem. Who is studying these

situations? Who is able to answer clearly and definitely the incessant calls for help along these lines?

There looms up here the whole big problem of the financing of the education of a free people. As our social order advances the demands made upon the wealth accruing from the productive industries seems ever to increase. We say that the safety of our institutions in a country so vast demands nothing less in the way of mass intelligence than that which a high school education can give; but when the children of the masses begin to move in that direction we find ourselves facing a serious limitation in funds necessary to finance the schools. It begins to appear that the burden of our social overhead costs is nearing the apex. There is danger of serious reaction that might carry us no one knows whither.

Yet we are still far short of those standards of effective instruction in our elementary schools which true economy in education demands. That there is a waste of time as well as of energy there and at a heavy cost to states there can be no doubt. It is our privilege, it should be our duty, as a body composed of the best trained men and women among the teachers of the land, to assume leadership in the solution of such problems.

For centuries we have been educating our boys to think of heroism and of our national progress in terms of war rather than in terms of the general enlightenment of our people through the work of the schools and the self-sacrificing heroism of our teachers. A McCutcheon could see in the acclaim over the war hero of France only the thought that "it is human nature to love a war hero." The cartoonist forgot that these were the only heroes acclaimed in our histories or celebrated in our national songs.

It remains for us, then, so to teach the sons of men as to give to "human nature" the habit of mind becoming a nation whose ideals are summed up in the claim for every individual of "the right to life, liberty and the pursuit of happiness." By so doing we shall be able to speed the day when the vast sums now paid in the name of our national defence may be turned into the channels of peaceful development, and of international helpfulness and friendship,—the only sure defence not only of nations but of our Christian civilization as well.

Wars are not alone on bloody battle fields. The roots, the prototype of war are in our very midst. Witness the strife between capital and labor in which whole nations are involved, and in which there are no non-combatants. With what ruthlessness are our industries throttled, our productive powers diminished, the peace and general welfare of our homes molested by these internecine wars. It is out of such conditions, chiefly, that international struggles arise.

We must find a way to so teach our history, our science, our arts, all the fundamental principles of human association and reciprocity

of services as to eliminate such self-seeking motives or at least to overcome their power as the present ruling forces in business and in organized industry generally.

It is largely our privilege as well as duty to seek to establish in the minds of youth the fundamental elements of such a philosophy of life as shall conform to the ideals and aspirations of the world's leader among nations as the representative of Christian democracy. If our schools, in cooperation with every constructive force of society, once set this for their task, wars, in time, will cease, and the problem of financing education in all of its worthy aspects will be solved.

Following this address was the report of a special committee on Objectives as a Basis for Curriculum Construction. This report was given by Principal L. W. Hanna, of Centralia, acting as Secretary of the Committee. The report was as follows:

## Objectives as a Basis for Curriculum Construction

I.

Minutes of the Meeting of the Committee on Curriculum Reconstruction Held in Chicago, October 28, and 29, 1921.

The Committee on Curriculum Reconstruction met in the Auditorium Hotel in Chicago at 10 o'clock Friday morning, October 28. Three sessions were held on Friday and one on Saturday morning. This meeting was authorized by the executive committee of the High School Conference and was called by Professor H. A. Hollister for a study of the results of the questionnaire on Objectives. The following were present at the meetings:

Prof. H. A. Hollister, University of Illinois.
Mr. H. D. Trimble, University of Illinois.
Supt. A. W. Clevenger, Wakefield, Michigan.
Prin. R. L. Sandwick, Highland Park.
Prin. W. E. McVey, Harvey.
Prin. C. H. Kingman, Ottawa.
Prin. L. W. Hanna, Centralia.
Prin. E. V. Tubbs, Kenilworth.

The meetings were presided over by Prof. Hollister who opened the first meeting by giving a review of the study of objectives. He outlined what he believed to be the work of the committee as follows:

(a) Study of our lists of objectives with a view to clarifying them, eliminating duplications, etc.

(b) Organize objectives as to their place in the curriculum.

(c) Determine what objectives are common to all four groups and what belong to only one.

(d) Indicate some uses which can be made of the objectives.

(e) Draw up a plan for a report to the conference.

L. W. Hanna was chosen secretary of the committee and was asked to prepare the work of the committee for a report before the general session of the conference to be held Nov. 17.

Discussions among the members of the committee brought out the belief that procedure in the study of objectives as a basis for curriculum reconstruction should move from life interests in a clear analysis of needs rather than from a study of the existing traditional courses. The committee believes that there is serious danger to the whole study when we depart from the original Charters' plan which kept away from any opportunity to defend existing courses in the curriculum.

The committee likewise agreed that the committee should not attempt to say exactly where the study of these things should begin but that they should be continuous in logical sequence.

The committee proceeded to a study of the objectives in a critical way, which work was concluded at twelve o'clock on Saturday. Before adjournment the committee reaffirmed faith in the problem of objectives and methods of procedure as originally outlined and testified as to helpful results in schools where teachers have carried on work along the line of this study. The committee asserted that they believed that this study carried through to completion would result in a real contribution to education.

## II.

### *Report of the Committee*

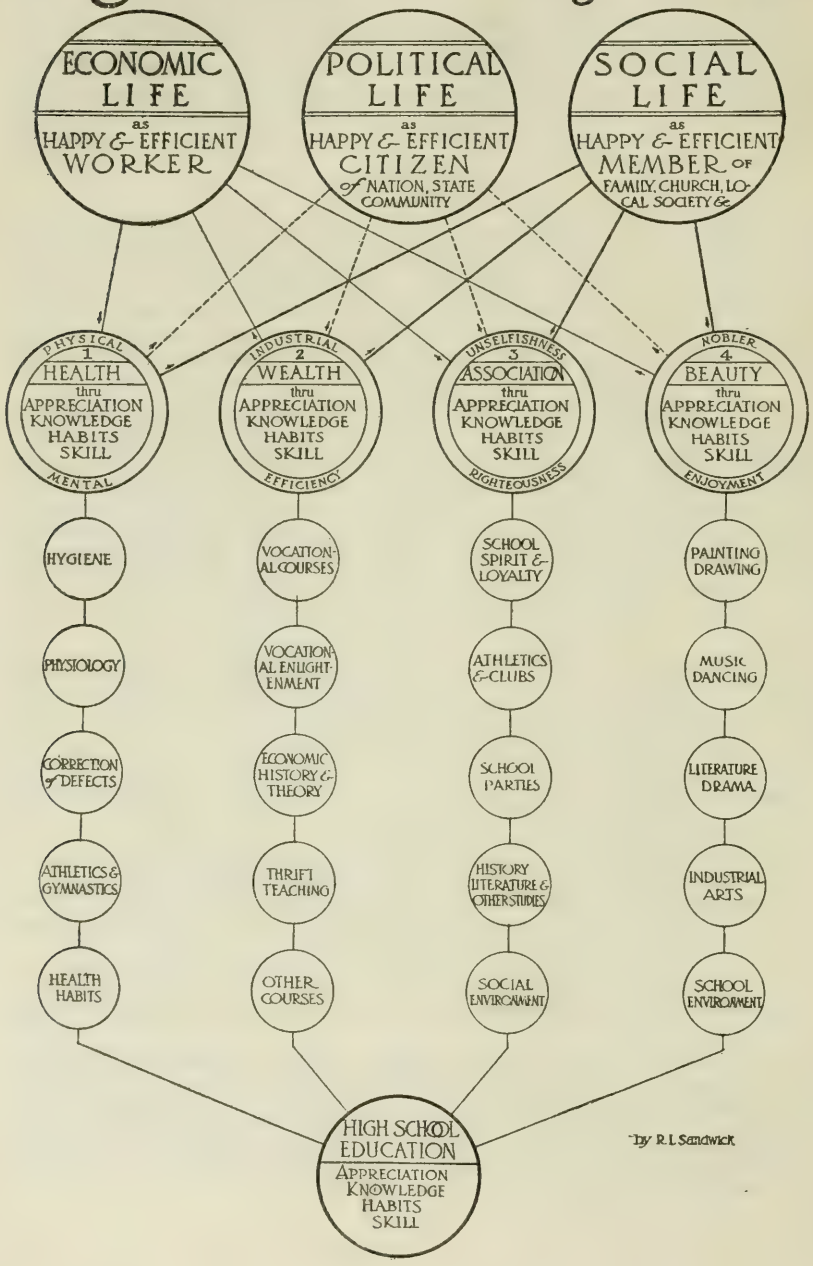
The plan to undertake, through the medium of High School Conference, the cooperative work of curriculum construction originated in 1918 with Prof. H. A. Hollister, Director of the Conference and High School visitor, and Dr. W. W. Charters, then dean of the department of Education of the University of Illinois. An organizing committee was appointed and this committee brought about the appointment of fourteen other committees to work upon the problem through the departments of high school work. An attempt to secure material from studies made elsewhere emphasized the need of a serious effort in curriculum making as no worthy effort had previously been made. The need for such a study has been forcibly brought to the attention of school administrators and teachers in many ways. The world war brought new work into the schools. The cloistered walls about many of our institutions of learning were torn down and pupils and teachers joined in the community activities. This direct contact with life interests proved so helpful that the public is disposed to favor a permanent change. Administrators and teachers have been called upon to provide curricula for continuation schools in Illinois. Whatever may be the shortcomings and inadequacies in the continuation school law, and school men believe they are many, one thing has impressed itself upon teachers and that is that the materials of the traditional curriculum will not serve the needs of pupils in these schools.

Confronted with the problem of curriculum construction, the first step was to secure a plan for the work. Dr. W. W. Charters presented before the 1918 Conference seven general rules which govern the technique of scientific methods of curriculum construction. These were as follows:

"(1) First, study the life of man in its social setting and determine ultimate (major) objectives.
(2) Analyze these objectives and continue the analyses until secondary units of workable size are obtained.
(3) Arrange these in order of importance.
(4) Raise to position of higher order in this list those objectives which are high in value for children but low in value for adults.
(5) Determine the number of the most important objectives which can be handled in the time allotted to school education after deducting those which can be learned outside of school.
(6) The best practices of the race in handling these objectives should be collected.
(7) Arrange them in proper sequence according to the psychological nature of children."

The first project then was that of determining these major objectives. Mr. R. L. Sandwick, Chairman of the general Committee authorized by this Conference, presented before the 1919 Conference the report of the Committee, naming the four fundamental life interests: Health, Wealth, Association, and Beauty. The following diagram or chart accompanied this report indicating that education should impart knowledge, appreciation, habits, and skill, leading up through various activities and subjects to the major objectives.

# High School Objectives


ECONOMIC LIFE as HAPPY & EFFICIENT WORKER
POLITICAL LIFE as HAPPY & EFFICIENT CITIZEN of NATION, STATE COMMUNITY
SOCIAL LIFE as HAPPY & EFFICIENT MEMBER OF FAMILY, CHURCH, LOCAL SOCIETY &
PHYSICAL 1 HEALTH thru APPRECIATION KNOWLEDGE HABITS SKILL MENTAL
INDUSTRIAL 2 WEALTH thru APPRECIATION KNOWLEDGE HABITS SKILL EFFICIENCY
UNSELFISHNESS 3 ASSOCIATION thru APPRECIATION KNOWLEDGE HABITS SKILL RIGHTEOUSNESS
NOBLER 4 BEAUTY thru APPRECIATION KNOWLEDGE HABITS SKILL ENJOYMENT
HYGIENE
PHYSIOLOGY
CORRECTION of DEFECTS
ATHLETICS & GYMNASTICS
HEALTH HABITS
VOCATIONAL COURSES
VOCATIONAL ENLIGHTENMENT
ECONOMIC HISTORY & THEORY
THRIFT TEACHING
OTHER COURSES
SCHOOL SPIRIT & LOYALTY
ATHLETICS & CLUBS
SCHOOL PARTIES
HISTORY LITERATURE & OTHER STUDIES
SOCIAL ENVIRONMENT
PAINTING DRAWING
MUSIC DANCING
LITERATURE DRAMA
INDUSTRIAL ARTS
SCHOOL ENVIRONMENT
HIGH SCHOOL EDUCATION
APPRECIATION KNOWLEDGE HABITS SKILL
by R. L. Sandwick

A part of the plan of the Conference of last year was to emphasize in the meeting of each section the importance of defining our objectives in terms of life interests and to impress upon teachers the need of careful study of this problem as the next step involved in the cooperative effort of a large group of teachers.

With this brief review of what had been accomplished up to the close of the Conference last year, it is now within the province of this paper

(a) To restate our problem pointing out some dangers and difficulties.
(b) To give an account to the Conference of what has been undertaken during the last year.
(c) To indicate our present position in regard to what we set out to accomplish.
(d) To indicate what are the next steps to be undertaken.
(e) To suggest some practical uses which can be made of the materials already available.

When the director of the Conference first set up our objectives he emphasized the necessity of deliberative study and investigation. Both he and Dr. Charters insisted that this undertaking was not one of a year or two years only, but that it might extend over a period of years. Life is not a static thing, therefore education which stands for life or is a part of life itself cannot be static. Many changes have taken place in the field of education since this study began.

It was to be expected that such an undertaking would be criticised. Those who have borne the responsibility most have not shrunk from criticism but have rather welcomed constructive criticism and invited helpful suggestions from those within this body of teachers and from those without. Our danger is not from our critics; for it has never been claimed that the work which has been done thus far has been perfect or that it has exhausted the field. The fact remains that it is an effort in the right direction.

The real danger in this undertaking, as in most undertakings, lies within the group of teachers here assembled. Those who have not studied the problem carefully or who have not understood the needs in the field have grown tired and are clamoring for something new. They feel that the subject has been exhausted and are disappointed with the meetings of the Conference in that they do not give the chautauqua platform inspiration for which they yearn. Many of the departments of the Conference, however. have undertaken the study personally and the committees are encouraged with the results. In a few instances only is there indications of open antagonism to the plan that has been proposed thus far. These few have not followed the problem through to its logical conclusion and feel that it will upset a pleasant routine if it will not altogether dislodge them from their positions.

Perhaps the greatest injury to the advancement of the work has come through those who are not openly antagonistic and are not even unsympathetic with the project but who want and clamor for immediate results. They ask that we give them something workable at once. They have not the patience to carry on the work for a long period of time without something tangible which they may put into operation in their schools. To these we can but repeat Dr. Charter's statement that the size of the task is such that it will take a number of years to do the work well. This does not mean that our schools and communities will not be bettered through such a study in the meantime. We shall attempt to point out some uses that can be made of the materials already at hand.

It is advisable to point out at this time one difficulty into which committees who are studying the problem are likely to fall. Once having determined the ultimate or major objectives, these committees wish to proceed immediately to the study of our present curriculum with a view to determining what materials now in use are worth while and what should be thrown into the discard. The difficulty with this procedure is that we are working with the materials of tradition and

are likely to call forth from each department a defense of all those things which are sacred to tradition. For this reason the second recommendation of the advisory committee, namely, that we should this year make a study of the contribution which each subject of instruction makes to these objectives, has not been followed.

Your committee believes, rather, that we should proceed in the other direction; that we should study and determine life interests and begin an analysis of these interests which will result in obtaining units of workable size for teaching in our schools. Our problem is one of curriculum construction rather than curriculum reconstruction. It is not the thought or purpose of the committee to throw into the discard the contributions of the past years to education, but rather to call in and use these contributions and employ the best practices in the handling of the material which we may be able to collect. Nor do we wish to leave the impression that it is not a wholesome procedure for teachers in the departments of the schools to apply the test of these objectives to the materials which they are teaching. This is an altogether profitable thing to do. When such has been honestly done it is sure to result in a critical attitude toward the subject matter which we have been content to use in the classroom unquestioningly for years.

At the close of the Conference last year we had passed the first step outlined by Dr. Charters in his seven rules. During the past year Prof. Hollister, with his assistants, have undertaken to get together the materials for the second step, which, as you recall is: Analyze these objectives and continue the analysis until secondary units of workable size are obtained. The four major objectives, Health, Wealth, Association, and Beauty have been generally accepted as fundamental to human interests. The advisory committee last year suggested three other objectives, ethical character, citizenship, and worthy use of leisure, but upon closer analysis the committee felt that they were either a part of the objectives mentioned above or a means to be used in approaching them. But as they stand they are large and general. Before they can be used to determine the content of courses of study, they must be analyzed into units of workable size.

Superintendent A. W. Clevenger and Mr. H. D. Trimble set about the work of analysis, studying the literature available. They took as a basis for their work the analysis of the Health objectives as worked out by Dr. Bobbitt of the University of Chicago in his summer classes of 1920, using the copy which Mr. Clevenger had preserved as a student member of one of these classes. Other objective analyses from the same source, although of an entirely different classification than that of the Conference, were found suggestive in preparing the analysis of the other three objectives,—Wealth, Association, and Beauty. With this as a basis they succeeded in suggesting a large number of objectives classified under each of the four major objectives. These were sent out to teachers of the State who were interested in the study of this problem. Many of you will recall the nature of this questionnaire. To the questionnaire were attached a list of the objectives which were to be added to by the teachers who were assisting with the study. The recipient of the questionnaire was asked to classify the objectives as to whether they belonged to the elementary schools, the high schools, or the colleges. Other questions were asked which lead to a clarification of obscurities in elimination of duplicates and statements of those which belonged to institutions of the community other than the schools. A clerical error in the questionnaire, which left out the question, "Which of these objectives belong to high school education?", occasioned some obscurity in the replies and made necessary a supplementary study which was carried on during the summer by Professor Hollister in his class at the University. The original questions were answered by 169 teachers. The replies have been tabulated and are attached to this report. The same sets of objectives were presented to fifty-seven superintendents, principals, and teachers in Professor Hollister's class and they were asked to classify them as to whether they belonged in elementary education, in high school, in elementary and high school, or elsewhere. The result of the classifications by this group of students corresponds very closely to the results tabulated from the original questionnaire.

This attempt to place the materials collected as to their position in the curriculum is not meant to be at all an arbitrary thing. If the objectives which we have determined upon are fundamental they should be taught to all of the children regardless of where we find them in the schools. If a child has reached the high school without having attained knowledge, skill, appreciation, or habit, as the case may be, in an objective which is important to himself or those with whom he associates, these fundamental things should be taught to him in the high school, or, indeed, in the college if he should reach the college without this teaching. Our school organization, however, in order to work efficiently where we handle pupils in comparatively large groups, should call for a relative classification of materials which will permit the teaching of the same subject matter in much the same year of work. Studies as to high school and college levels, however, have brought out the fact that there is no arbitrary standard which marks the high school level or the college level. These have been known to vary as much as two years or more in different localities, but, as stated before, the important thing is not so much when the child receives knowledge, becomes skillful, formulates habits or appreciations, as that he shall eventually receive these through his work, covering the material in proper sequence.

Professor Hollister was authorized by the executive committee of the Conference to call a meeting of members of this Conference to study the results of the questionnaire referred to above. This special committee undertook to work over these sets of objectives and to canvass the educational objectives sent in by the teachers to decide what should be added to the list already at hand and what should be discarded as duplicates. In many cases the objectives were reworded with a view to clarifying them, avoiding duplications and ambiguities. These objectives, as re-stated, have now been arranged as a result of the questionnaire, into groups which belong to elementary education, elementary and high school education, high school education, and college. Those which were indicated by the largest number of teachers as belonging to any particular group are placed first and are listed in order, moving from one group to another, from elementary to those which were indicated as belonging to both elementary and high school, thence to those belonging distinctly to high school, and finally to those which belong to college. There was found to be a distinct overlapping in every case. Those found at the extremes of the entire list were classed by large numbers in their respective places, while those near the end of the elementary and high school groups were placed by almost equal numbers of teachers in one or the other group. A few of the objectives were placed by equal numbers or nearly equal numbers of teachers in each of the classifications. This would seem to indicate that the material pertaining to the objectives might be taught or initiated in elementary education and extend into or through college education.

There has been no attempt to group these objectives as to similarity of content, but as indicated above they have been grouped in order of selection by the largest number of teachers. It remains for us yet to bring together related material and to arrange this in order of importance. Some of the objectives are common to all four of the major objectives. These we have grouped and attached to this report. We have covered then only the first two of the seven general rules set down by Dr. Charters.

Our immediate problem, then, is to proceed through step three to step four when we shall attempt to raise to positions of higher order in this list those objectives which are high in value for children but low in value to adults, and to step five to determine the number of the most important objectives which can be handled in the time allotted to school education after deducting those which can be learned outside of school. We have not yet reached the goal of our undertaking. Let us not grow impatient for results. Some ground has been covered and some real progress made. Those who have been most closely associated with this study have renewed faith that we have adopted the right procedure and they are growing more optimistic every day concerning the future of our undertaking.

It is not necessary, however, for us to wait until our task has been completed to discover some practical uses which can be made of the materials already available. The objectives themselves furnish a rich field for study. No claim is made that these groups are complete. As civilization advances and the complexities of society increase these objectives can be added to in large numbers. Some concrete examples of the helpfulness of the objectives and of the rules or technique which govern our method of study have come to the notice of members of the committee. Teachers who have studied the objectives have reported in large numbers that they have found it more and more difficult to reconcile much of the materials they are teaching with the life interests of the pupils. A history teacher has recently undertaken the study of the objectives with a view to selecting all of those which have to do with her department of work. There will no doubt follow a close study of the materials which she is presenting to her classes in the light of these objectives.

Not the least of the benefits derived is the critical attitude being assumed by virtually all teachers of the content of our course of study. They are asking themselves the question where and how will this function in the life of the individual or in the community. Administrators who are called upon to build up curricula to meet local or specific needs are using the procedure indicated by this Conference.

## HEALTH OBJECTIVES

### Elementary Schools

1. Skill in reading understandingly.
2. Habit of caring for the teeth, nails, hair, scalp, nose, ear, eye, throat, hands, feet, and skin.
3. Habit of maintaining cleanliness of person, clothing, home, and general environment.
4. Habit of keeping the body mechanism properly supplied with oxygen.
5. Ability of maintaining postures conducive to the best physical functioning.
6. Habit of protecting oneself from preventable accidents.
7. Habit of protecting oneself from dust, smoke, noxious gases, etc.

### Elementary Schools and High Schools

8. Habit of doing one's part in keeping public property such as streets, alleys, public buildings, parks, etc., clean, sanitary, and free from breeding places for flies, mosquitoes, etc.
9. Habit of utilizing muscular exercise as a life long means of developing and maintaining a high level of physical vitality.
10. Knowledge which will enable one to protect himself as far as possible from micro-organisms.
11. Habit of making one's sleep count in maximum measure in the development and maintenance of a high level of physical vitality.
12. Knowledge sufficient to gain information readily and easily from the presentation of others.
13. Knowledge that will enable one to avoid colds and conditions that are conducive to them.
14. Knowledge of "first aid".
15. Knowledge of the relation of sunlight to health.

### High Schools

16. An appreciation of the cost of ill health.
17. Skill in presenting clearly and effectively to an audience any body of thought organized for the purpose of promoting health.

18. Habit of applying the rules of dietetics.
19. Knowledge of the proper feeding, control of disease, and sanitary care as related to food production of live stock.
20. Knowledge of the importance of good drainage.
21. Knowledge of the care of foods, their preparation and preservation.
22. Knowledge of proper heating and ventilation.
23. Knowledge of how to control sex functions in the interests of high physical vitality.
24. Knowledge which enables one to sense and interpret signs of physical weakness or fatigue.
25. Knowledge of how to care for the sick.
26. Habit of paying willingly one's rightful share of all proper costs for health services.
27. Habit of keeping informed, obeying, and working for health legislation.
28. Habit of dressing in ways that promote the physical well-being in maximum degree.
29. Knowledge enabling one to take precautionary and remedial steps necessary in the protection of oneself and family in case of considerable variety of common ailments.
30. Habit of using leisure time in such a manner that physical benefits may be derived therefrom.
31. Knowledge sufficient to utilize wisely the services of health experts, e. g., boards of health, clinics, etc.

COLLEGES

32. Appreciation of the need within one's specialized field of labor of doing one's share in providing the best practicable sanitary working conditions.
33. Appreciation of the need on the part of employer and employee of bringing about sanitary working conditions and hours.
34. Appreciation of the need of counteracting by means of recreation or avocation the undesirable effects of highly specialized activity.
35. Appreciation of the necessity of doing one's part in securing public hospitals, sanitary water supply, adequate disposal of garbage and sewage, healthful places for recreation, institutions for the blind, deaf, feeble minded and incapacitated.
36. Appreciation of the need of doing one's share in organizing and controlling various recreational agencies.
37. Habit of doing willingly one's rightful share in providing the governmental mechanism necessary to the performance of cooperative functions involved in all aspects of health control.
38. Habit of performing one's civic functions in the effective creation and maintenance of all specialized agencies of health.
39. Knowledge of the symptoms of many kinds of diseases and ailments enabling one to deal with them or get proper specialists to deal with them in the incipient stages.
40. Habit of making one's various mental and emotional states and activities count in maximum measure in the development and maintenance of a high level of physical vitality.
41. Knowledge of the laws of genetics.

## WEALTH OBJECTIVES

### Elementary Schools

1. Skill in writing legibly, easily and rapidly.
2. Skill in spelling words which one writes.
3. Skill in reading understandingly.
4. Habit of keeping one's things in order.
5. Skill in using accurately common measuring instruments.

### Elementary Schools and High Schools

6. Habit of keeping one's self physically fit.
7. Habit of being punctual in all of one's affairs.
8. Skill in the use of an adequate vocabulary.
9. Habit of being fair, square and honest in both work and play.
10. Habit of controlling one's temper.
11. Habit of attention which will enable one to gain information readily from oral presentation of others.
12. Habit of doing one's duty and doing one's best.
13. Habit of being a good "sport" whatever the character of the situation.
14. Skill in cooperating with other persons.
15. Knowledge sufficient to make a wise choice of companions and to develop and maintain friendship with them.

### High Schools

16. Skill in presenting clearly and effectively in writing, orally or by means of graphs any body of thought which one has organized for that purpose.
17. Knowledge enabling one to choose a vocation that is adapted to one's personal characteristics.
18. Appreciation sufficient to enable one to exercise good taste in matters of proportion, design and color.
19. Knowledge of contracts, wills, checks, notes, life and fire insurance and other legal documents.
20. Skill in taking part in an informal discussion without deviation and without discourtesy to others.
21. Knowledge of the methods of the transfer of real estate.
22. Knowledge enabling one to find the facts of the kind desired when needed.
23. Skill in referring events, places, personages or other things met with in reading or conversation to their proper geographical setting.
24. Knowledge and appreciation of natural and social sciences, mathematics, applied art and design, etc., as related to economic conditions in life.
25. Knowledge of the problems involved concerning the conservation and economical use of capital, materials, time, labor, power, etc.
26. Skill in business correspondence.
27. Skill in using the voice agreeably and effectively.
28. Knowledge enabling one to perform certain activities connected with one's own home and place of business such as:
    a. Keeping tools commonly used in good working condition.
    b. Cleaning, repairing, lubricating the various pieces of machinery commonly used.
    c. Doing simple painting, varnishing, whitewashing, etc.
    d. Hanging window shades, curtains, pictures, etc.

e. Care and repair of various electrical apparatus.
f. Making of garments, trimming of hats, mending, etc.
g. Laundering.
h. Cooking and canning.
i. Checking meter reading.

29. Habit of keeping informed concerning and being obedient to the spirit and letter of the law relative to financial dealings.
30. Appreciation of the need of assuming responsibility.
31. Knowledge sufficient to enable one to interpret his present social and economic situation.
32. Habit of dressing and maintaining a personal appearance best suited to one's social standing.
33. Knowledge sufficient to enable each member of an organization wherever placed to help determine the best processes to employ.
34. Knowledge of statute and common law in so far as it relates to economic affairs with which one is concerned.
35. Habit of using leisure time profitably.
36. Habit of finding answers to one's own perplexing problems with a minimum amount of trouble to others.
37. Skill in presenting thought by oral reading.
38. Appreciation of one's own abilities, capacities, aptitudes, strengths, weaknesses, etc.
39. Skill in associating with individuals of diverse interests in a tactful and agreeable manner.
40. Skill in marketing.
41. Habit of keeping a personal and family expense account.
42. Habit of "keeping one's head," one's intellectual poise and sense of proportion, one's emotional serenity in the face of circumstances however trying.
43. Knowledge and thrift in matters of bank accounts, savings and investments.
44. Appreciation of the importance of doing one's share toward the upkeep of public education, hospitals, government, national defense, fire protection, etc., etc.
45. Knowledge and habit of complying with all those social forms and conventions which facilitate human associations.
46. Appreciation of the importance of estimating at proper value services both given and received.

COLLEGES.

47. Skill in reading the motives of people with whom one deals.
48. Skill in speaking, reading, and writing any foreign language, which is closely connected with one's business or profession.
49. Skill in using scientific methods in regard to those aspects of vocations that require scientific thinking and a command over the necessary scientific facts, principles, and technique.
50. Skill in sensing the thought and reactions of those with whom one associates or has dealings.
51. Knowledge enabling one to turn to a new calling should conditions make it necessary.
52. Appreciation of the need of doing one's full share in the selection and retention in office of efficient public servants; and in the dismissal from service of inefficient or unfaithful public servants.
53. Knowledge enabling one to converse agreeably and effectively upon a great variety of topics and in a manner suitable to the situation.

54. Appreciation of the importance of keeping abreast with progressive developments in one's occupational field.
55. Appreciation of the importance of cooperation within an industry to promote in maximum measure the general welfare.
56. Appreciation of the need of a sympathetic understanding between the employer and employee.

## ASSOCIATION OBJECTIVES

### Elementary Schools

1. Skill in writing legibly and rapidly.
2. Skill in reading understandingly.
3. Skill in the pronunciation and enunciation of the words which one uses.
4. Skill in spelling the words which one uses.
5. Habit of keeping the walks for which one is responsible free from snow and ice.
6. Habit of recognizing and appreciating property rights.

### Elementary Schools and High Schools

7. Habit of being fair, square and honest in both play and work.
8. Knowledge of those things essential to keeping oneself physically fit.
9. Habit of observing the rules of health.
10. Appreciation of the value to mankind of plants and animals.
11. Habit of controlling one's temper.
12. Habit of using English which is grammatically correct.
13. Habit of taking exercises beneficial to good health.
14. Habit of protecting oneself by forestalling preventable accidents.
15. Habit of being a "good sport" whatever the character of the situation.
16. Knowledge of an adequate vocabulary.
17. Knowledge of first aid methods necessary in dealing with many kinds of common accidents.
18. Habit of being punctual in all of one's affairs.
19. Habit of doing one's part in keeping public property, such as streets, alleys, parks, etc., clean, sanitary and free from breeding places for flies, mosquitoes, etc.
20. Habit of working with both mind and muscle.
21. Skill in obtaining the essential thoughts from the written page.
22. Habit of doing one's part in the care of grass, flowers, shrubbery, etc., on both public and private property.
23. Appreciation of the value of loyalty within the group.
24. Habit of destroying by correct methods weeds and weed seeds on property for which one is responsible.
25. Amateur skill in rendering music—vocal or instrumental.
26. Skill in participating in a variety of play activities such as swimming, dancing, tennis, driving a motor car, camping, etc.
27. Appreciation of home life.
28. Appreciation of one's responsibility to make the home happy.
29. Knowledge and habit of conducting oneself properly in the presence of the opposite sex.
30. Appreciation of the value of trusting and being trusted.

31. Appreciation of indebtedness to one's parents.
32. Habit of strict obedience to both the spirit and the letter of the law.
33. Appreciation of the time of other individuals.
34. Appreciation of modesty and purity.
35. Habit of church attendance.

### High Schools

36. Habit of keeping the fences for which one is responsible in a good state of repair.
37. Appreciation of the cost of education paid by parents, city, state and nation; facts presented in such a way as to make educational opportunity a privilege.
38. Habit of refraining from gossip.
39. Knowledge of how to locate in a library the material which one needs.
40. Knowledge of the graphic representation of facts.
41. Skill in speaking effectively to an audience.
42. Skill in participating in an informal discussion.
43. Knowledge of rules of order and procedure in public meetings.
44. Knowledge of the methods necessary for revising and repealing laws.
45. Appreciation of the rights and duties of oneself and others within one's own group in relation to the other groups composing the general social whole.
46. Habit of discussing public issues sanely.
47. Knowledge that will enable one to see mankind from the earliest origins to the present time in a wide and true historical perspective.
48. Knowledge which will enable one to refer events, personages, social movements, stages of institutional growth, etc., met with in one's usual reading or conversation, to their proper geographical and historical setting.
49. Skill in the preparation and serving of meals.
50. Knowledge of statutory and common law as they function in daily life.
51. Habit of keeping informed as to legislation.
52. Skill in using the voice agreeably and effectively.
53. Skill in thinking, judging and deciding only on the basis of legitimate evidence.
54. Appreciation of one's own ability, capacities, aptitudes, strengths, weaknesses, short-comings, etc.
55. Appreciation of the ability, capacities, aptitudes, strengths, weaknesses, short-comings, etc., of others.
56. Skill in understanding the oral presentation of others.
57. Habit of performing willingly and cheerfully one's duties as one sees them within the total circle of social interdependencies.
58. Skill in reading foreign languages with which one frequently comes in contact.
59. Skill in taking part in amateur dramatics, theatricals, pageants, etc.
60. Knowledge of how to care for the sick.
61. Habit of doing one's share in the cooperative conservation of human energy and time.
62. Appreciation of the power of organization within society.
63. Habit of "keeping one's head," one's intellectual poise and sense of proportion, one's emotional serenity in the face of circumstances however trying.
64. Appreciation of the necessity for Americanizing our foreign element.

65. Knowledge that will enable one to comply with the social forms and conventions which facilitate human associations.
66. Knowledge of the present-day methods of molding public opinion.
67. Appreciation of the individual's right to secure products or services of the specialized agencies at cost just to both consumer and producer.
68. Full appreciation of the value of initiative of the right sort on the part of an individual if that individual is to function to the fullest extent in society.
69. Appreciation of music.
70. Habit of choosing companions wisely and cultivating the friendship of persons of high character, having diverse natures, activities and interests.
71. Appreciation of the value of the other person's point of view.
72. Habit of employing leisure time in ways which are not derogatory to the welfare of the community.
73. Appreciation of one's duty in cooperating to deprive of privileges those who will not carry their proper share of the total social load whether general or specialized.
74. Knowledge of the interdependence of specialized social groups and how to secure one's right within these groups.
75. Skill in substituting mental for physical force in adjusting social differences.
76. Habit of doing one's share in providing for and controlling various recreational activities.
77. Habit of contributing to the support of private and public service.
78. Skill in planning cooperatively enterprises which are socially beneficial.
79. Appreciation of relative social values.
80. Knowledge which will enable one to recognize the symptoms of many kinds of diseases and ailments enabling one to take the proper precautionary steps in their incipient stages.
81. Habit of taking part in the organized prevention of accidents and diseases.
82. Knowledge of how to write a courteous letter according to forms in general use.
83. Habit of dressing in a way such that the best personal appearance will be made.
84. Habit of doing one's share in the selection and retention in office of efficient public servants; and in the dismissal from service of inefficient or unfaithful public servants.
85. Habit of doing one's share in the cooperative conservation of society's material wealth.
86. Appreciation of the services rendered by religious organizations.
87. Habit of working without remuneration for the larger group.
88. Habit of taking conditions as they now are as a working basis for bringing about better conditions.
89. Habit of making plans for the things which one does.

COLLEGES

90. Appreciation of the value of tact as a personal asset.
91. Ability to appreciate and act on constructive criticism made on one's own work.
92. Knowledge of human psychology sufficient to enable one to deal with mobs.
93. Appreciation on the part of the employer of the problems, troubles and difficulties of the employees both in the specialized field and in the general field for which their wages must provide.

94. Habit of cooperating effectively with the various specialists who make up one's occupational group.
95. Appreciation on the part of the employee of the problems, troubles, and difficulties of the employer both within the organization and in the relation of the organization to the total social situation.
96. Skill in sensing the thought and reaction of those with whom one associates or has dealings.
97. Skill in performing unspecialized activities with a view not only to promoting the interests of oneself and family, but also the welfare of the total group of which one is an individual unit.
98. Skill in speaking the foreign language of any foreign people with whom one frequently comes in contact.
99. Skill in reading the motives of those with whom one deals.
100. Habit of seeing that cooperative services are rendered with economy and efficiency.
101. Habit resulting from knowledge of and interest in social problems, of keeping informed as to social phenomena, relations and problems thru reading newspapers, magazines, books, publicity documents, etc.
102. Appreciation on the part of employers of their rights in relation to employees and the general public.
103. Appreciation on the part of employees of their rights in relations involving capital, labor, and the general public.
104. Knowledge of how to secure the maximum benefit from travel.
105. Appreciation of the value of one's work to the social group.
106. Habit of doing one's part toward the elimination of parasitism from society.
107. Knowledge of how to utilize the fields of service for fields of leisure occupation.
108. Knowledge of how to use publicity as a foundation of social control.
109. Appreciation of a large group consciousness relative not only to the local community group but to the state, national, and world group.
110. Skill in wise leadership.
111. Knowledge that will enable one to employ scientific methods in the solution of economic, political, and social problems.

## BEAUTY OBJECTIVES

### Elementary Schools

1. Skill in reading understandingly.
2. Skill in pronunciation and enunciation of the words which one uses.

### Elementary Schools and High Schools

3. Skill in the use of vocabulary.
4. Habit of observing those rules of health which will keep one in such physical condition that one's enviroment will be appreciated to the fullest extent.
5. Skill in oral and written description.
6. Habit of doing one's part in keeping alleys, streets, roads, etc., attractive in appearance.
7. Amateur skill in drawing and painting.
8. Skill in using English which is grammatically correct.
9. Habit of keeping the premises for which one is responsible neat and attractive in appearance.
10. Amateur skill in rendering music, vocal or instrumental.

11. Appreciation of drawings and paintings.
12. Appreciation of the beauty of living clean and religious lives.
13. Habit of doing one's part toward the elimination of weeds.
14. Appreciation of performances involving great coordination of mind and muscles, dancing, swimming, skating, skiing, riding, athletic games, etc.
15. Habit of doing one's part toward the proper care of grass, shrubbery, flowers, etc., in public places.
16. Amateur skill in gardening and in caring for house plants.
17. Appreciation of the contribution which birds make to one's environment, including their aid in the destruction of plant destroying insects.
18. Habit of doing one's part in keeping the place where one works neat and attractive in appearance.
19. Habit of dressing in good taste.
20. Habit of doing one's part in the cooperative effort to eliminate unsightly fences, buildings, sign-boards, etc.
21. Habit of doing one's part in keeping boats, street cars, trains, depots, etc., neat and attractive in appearance.
22. Appreciation of the services rendered by street cleaners, house maids, janitors, care takers, etc.
23. Habit of controlling the smoke for which one is responsible.
24. Appreciation of the need for keeping cemeteries attractive.

### High Schools

25. A knowledge that will make possible an appreciation of the beauty of organic and inorganic matter and of the forces and laws of the universe.
26. Appreciation of the drama.
27. Knowledge of the history of music, literature and art.
28. A knowledge of arrangement, proportion, color and design in architecture, interior decoration, landscape gardening and sculpturing.
29. Amateur skill in designing clothing, hats, furniture, homes, decorations, pottery, metals, etc.
30. Amateur skill in the workmanship involved in making clothing, hats, furniture, pottery, articles in metals, etc.
31. Appreciation of productions of literary value.
32. Knowledge of the biographies of musicians, painters, sculptors, etc.
33. Appreciation of music.
34. Amateur skill in taking part in dramatics, theatricals, pageants, etc.
35. Amateur skill in the production of literature.
36. Skill in presenting one's ideas to others.
37. Skill in using the voice in ways both agreeable and effective.
38. Habit of employing one's leisure time for the cultivation of an appreciation of the beautiful.
39. Appreciation of the necessity of conservation of our natural resources, forests, streams, fish, birds, game, etc.
40. Skill in one's work sufficient to make possible the greatest enjoyment in the performance of it.
41. Appreciation of attractively arranged and well kept farm buildings.
42. Habit of keeping one's private conveyance clean, neat, and attractive.
43. Habits of encouraging civic projects such as pageants, plays, community athletics.

44. Appreciation of utilitarian beauty.
45. Habit of maintaining poise.

COLLEGES

46. Habit of contributing one's share for the establishment and upkeep of museums, art galleries, libraries.
47. Habit of doing one's share in making ordinances controlling public dumping places, and in seeing that such ordinances are observed.
48. Skill in reading foreign literature in the original language.
49. Amateur skill in musical composition.

Objective common to the four groups.

1. Skill in reading understandingly.

Objective common to the Health, Association and Wealth groups.

1. Knowledge sufficient to gain information readily and easily from the presentation of others.

Objective common to the Association, Wealth, and Beauty groups.

1. Skill in using the voice agreeably and effectively.

Objectives common to the Health and Association groups.

1. Habit of protecting oneself from preventable accidents.
2. Habit of doing one's part in keeping public property, such as streets, alleys, public buildings, parks, etc., clean, sanitary, and free from breeding places for flies, mosquitoes, etc.
3. Knowledge of first aid methods necessary in dealing with many kinds of common accidents.
4. Knowledge of how to care for the sick.
5. Habit of doing one's share in providing for and controlling various recreational activities.
6. Knowledge that will enable one to recognize the symptoms of many kinds of diseases and ailments enabling one to take the proper precautionary steps in their incipient stages.

Objectives common to Association and Beauty groups.

1. Habit of dressing in good taste.
2. Skill in pronunciation and enunciation of the words which one uses.
3. Skill in using English which is grammatically correct.
4. Habit of doing one's part in the care of grass, flowers, shrubbery, etc., on both public and private property.
5. Habit of doing one's part toward the elimination of weeds.
6. Amateur skill in rendering music—vocal or instrumental.
7. Skill in taking part in amateur dramatics, theatricals, pageants, etc.
8. Skill in reading foreign languages with which one frequently comes in contact.

Objectives common to the Association and Wealth groups.

1. Skill in writing legibly and rapidly.
2. Skill in spelling the words which one uses.
3. Habit of observing the rules of health.
4. Habit of being punctual in all one's affairs.
5. Habit of being fair, square, and honest in both play and work.
6. Habit of controlling one's temper.

7. Habit of being a good "sport" whatever the character of the situation.
8. Knowledge which will enable one to refer events, personages, social movements, stages of institutional growth, etc., met with in one's usual reading or conversation, to their proper geographical and historical setting.
9. Knowledge that will enable one to interpret his present social and economic situation.
10. Skill in reading the motives of people with whom one deals.
11. Habit of doing one's share in the selection and retention in office of efficient public servants; and in the dismissal from service of inefficient or unfaithful public servants.
12. Habit of "keeping one's head," one's intellectual poise and sense of proportion, one's emotional serenity in the face of circumstances however trying.
13. Appreciation of one's own ability, capacities, aptitudes, shortcomings, etc.

## 2. Friday Evening

The Friday evening session opened with a cantata, "The Walrus and the Carpenter," given by high school pupils under the direction of Miss Mary Dodds Phillips of the School of Music. Although some of the participants were detained on account of the rain which had continued throughout most of the day yet this exercise was carried through successfully and was received with enthusiasm by the teachers.

The first address of the evening was given by Professor E. C. Hayes of the department of Sociology, University of Illinois. His topic was **Education for Personality.** Professor Hayes spoke as follows:

The personality of an individual is in part the product of biological evolution and in part the product of social evolution. Biological evolution produces a human species which, according to Huxley, is more closely related to the chimpanzee than the chimpanzee is to the South American apes. Biological evolution never produces such a thing as a carpenter. I do not know whether Tubal Cain first made tools, or whether Prometheus first brought fire from heaven to smelt the metals, but it is certain that a carpenter's tool chest embodies the results of a social evolution which goes back to that remote antiquity in which the tools of men were chipped from flint. Biological evolution never produced such a thing as a tailor. A suit of clothes such as one of us is wearing embodies a great number of arts of which some were already ancient when Sarah stood spinning in the tent door of Abraham. Biological evolution produced naked savages, but never a suit of clothes nor a tailor who could make one. Biological evolution never produced such a thing as a Methodist or a Republican. Behind each Methodist stand not only Wesley, Luther, and Christ, but the piety and devotion, longing and aspiration of uncounted nameless souls, and behind every Republican stands an institutional history which was far advanced when the Pilgrim fathers set sail in the Mayflower. Biological evolution does not determine whether one shall have a conscience which, like that of Abraham, approves of polygamy, slavery, and infant sacrifice, or one which sanctions the glorified robbery and murder of Thugs and Vikings, and war as practically all men once did and some still do. Biological evolution does not determine whether we shall think it seemly to bury our dead in the ground to decay and become the food of worms, or whether we shall regard such a practice as revolting, and honor our dead by ourselves consuming their flesh with solemn rites. Biological evolution does not determine whether one shall speak the English language, or the Greek language, or any language whatsoever. Except by virtue of results brought about through social evolution we should all be, not only naked savages, but dumb brutes.

Is there any opinion that we hold, or ambition that we cherish or moral standard by which we are governed, or practical art in which we engage; is there anything that we think, or feel, or do, or are, aside from the mere functioning of our physical organism which we should think or feel or do, or be, if we had grown from childhood in complete isolation from society, so that our personality was the product of biological evolution alone? Helen Keller affirms that until through skillful teaching she was made to share in the life of society, she had no soul.

The results of biological evolution are passed on from generation to generation by the germ cells. The results of social evolution are passed on by education. The biologists have made it practically impossible for us to think that the education of the parents improves the inborn quality of their offspring. The parents may have enjoyed a classical education, but the child will have as much trouble with the Greek alphabet as if his parents had been uneducated. This is because education affects the brain and the children inherit their brain not from the parents' brain, but from the parents' germ cells and it is impossible to educate germ cells. The son of a blacksmith is likely to be a sturdy boy because if his father had not been a sturdy youth, he would not have become a blacksmith, but the strength of the father's arm which was acquired by beating the anvil, the son will not inherit, for the son does not inherit his arm from his father's arm, but from his father's germ cells, and beating the anvil does not affect the father's germ cells. We are sometimes tempted to regard this as cutting off a part of our hope of progress, but what if the father had lost his arm and the son had therefore been born with but one arm? What if every result of accident and disease incurred by any individual were entailed upon his posterity forever. Would the human race by now have become a collection of monstrosities for a museum or would it be extinct? It is well that nature guards her citadel, the germ cells, against changes which are due to the experiences of individuals. The process of education so far as we know, has contributed nothing to the advancement of the inborn human type. Biologists assure us that the best of us who are born today are not superior to Aristotle or Abraham, or to our own savage ancestors of three or four thousand years ago. Distinctively *human* nature is second nature. As animals we are the offspring of biological evolution. As men we are the offspring of social evolution.

Teachers are the almoners of the social heritage. It is their province to introduce each rising generation into its possessions as "heir of all the ages."

It is impossible to exaggerate the importance either of the inborn nature of the individual with its potentialities and its limitations, or of that second nature which is socially acquired. Biological inheritance is like the field, the social life is like the crop which grows in that field. As some soils are sterile and arid, and others well watered and fertile so some inherit meager possibilities and others great endowment. Not every type of crop can be raised in any given field nor crops of the same type in equal abundance. But the same fields may yield corn, or oats, or clover, celery, tomatoes or wheat, or merely bushes or weeds. Our greatest authority upon soils was in the habit of saying that by the application of more scientific methods the average yield of the corn fields of Illinois might be doubled. It is equally within the truth to say that by more adequate methods of education the harvest of life for the population of Illinois might be doubled in value. Occasionally the fact of conversion shows that the person who has been most abandoned in a career of vice and violence may develop the most saintly virtues and most apostolic zeal. The Vikings burned villages, pillaged churches, enslaved women, and sung their own praises as sea-wolves, but today there are no more peaceful villages in the world, than those inhabited by the men who inherit the blood of the Vikings. One of our immigrant groups is notorious for slovenliness, coarseness, superstition, lack of intellectual life or ambition, another immigrant group is equally known as musical and artistic, as militant free thinkers, and as keenly ambitious for the education of their

children. These two groups belong to the same subdivision of the same European stock. Ye must be born again is the expression not only of a duty but also of a necessity. We cannot escape being twice born, once of the biological and once of the social stock, once as products of that biological evolution, the results of which are transmitted through the germ cells, once as products of that social evolution, the results of which are transmitted by education.

One of the aims of education for personality is the development of independence of character. For this purpose no other training is comparable with the study of social causation, which reveals how the pressure of custom and the prestige of the influential tend to mold us. The most radical contrast between the savage or the uneducated man and the man of culture is that the former have had their opinions and their sentiments imparted to them by social agencies, without the exercise of any free critical intelligence or power of choice on their own part, while the man of culture from among all the types of thought and sentiment with which he is acquainted has made a rational selection and has more or less emancipated himself from control by custom and prestige. This same training in social causation is our chief protection, not only against being manipulated by prestige and propaganda, but also against being poisoned by the hatred of bigotry and partisanship. When we realize that under different social conditions our own opinions and sentiments would have been the opposite of what they are, we become less inclined to hate those who differ from us.

The social experience of many generations has gradually enforced upon the minds of men the necessity of certain fundamental virtues and in a socially developed personality these fundamental virtues must be established. There are ten commandments, but if even three or four of the deepest lessons of group experience could be really learned by every individual the stability and progress of society would be assured. Among these fundamental virtues, the necessity of which has been socially demonstrated, are first honesty and reliability; second, a certain idealism in the relations between the sexes; third, industry, and fourth, the social spirit of loyalty to that common good which can be realized only by cooperative endeavor,—the type of endeavor in which alone personality finds its fulfillment and highest joy.

But personality is more than the sum of virtues. It includes developed ambitions, tastes, interests and powers. More men are in jails and hospitals on Monday morning than at any other time because more men have had a little leisure to follow their tastes. We have entered upon a "pleasure economy" in which the chief motives to human endeavor are not found in dread of hunger and cold, peril and pain, but in desires for pleasures and satisfactions. Hitherto no society has long survived after this point has been reached, and whether we can long survive depends upon the development of popular desires, the pursuit of which instead of destroying life lead it to fulfillment. Herein lies the justification of that half truth expressed by Ruskin when he said that education consists in making people want what they ought to want. To speak of the development of powers does not of necessity imply the belief in "transference of discipline." Interests and appreciations are themselves phases of power. Until man's interests are aroused his powers are but sleeping giants. Deliverance from the oppression of custom, prestige and propaganda and encouragement to intellectual self-assertion is a development of power. Moreover, as there is a discipline for war in which we train with rigorous exactitude, likewise there is an equally essential discipline of peace, the habit of facing without flinching, and with methods of efficiency those almost continuous demands which in their sum-total are the conditions of individual happiness and social achievement.

Education must afford a three-fold preparation—preparation to earn a living, to live a life, and to participate in the life of society. Even as a preparation to earn a living the development of personality may be quite as important as any technical training. Engineers who are able to work out the intricate mathematics

of structural problems can be hired for $1500 a year. But the engineer who receives ten or twenty times that amount and who directs the activities of these technical experts is the man who is welcomed as an equal by men of power and is recognized as being a developed personality. Science is more than a tool, it is an initiation into life. Pythagorus sacrificed a hundred hecatombs on the day he discovered that the square of the hypotenuse is equal to the sum of the squares on the other two sides of a triangle, and Michelson as he dusted the crayon from his fingers after a great demonstration in physics said, "Thank God nobody can make any use of it." He meant "Here is something that you must recognize as a glorious intellectual experience the value of which does not depend upon its being put into overalls and set to work." The hungry mind occupies itself with solving puzzles in the back of the weekly newspaper when it might be feeding upon the intricacies and mysteries of nature and when through history it might extend its human acquaintance to every century and every continent and through literature might be making itself at home beside all men's hearthstones. Culture has been well defined as a widening of our world through the development of our interests, and a broadening of our human fellowship.

Education employs two methods, the method of compulsion and the method of radiation. We cannot entirely dispense with the method of compulsion but education achieves its finest results by the method of radiation—radiation from the teacher to the taught, of sincere interests and appreciations, of an intellectuality accustomed to independent inquiry, keen analysis and cautious judgment and of a social spirit which derives ethical guidance and motive from interested membership in the social whole. There are not enough thoroughly educated persons, capable of being centers of such radiation, available as teachers. Plato was not wrong when in describing an ideal republic he assigned the task of the educator to the men of richest endowment and most rigorous training. One of the most famous living Englishmen has said that two kinds of work are so much above all others as to stand in a class by themselves, namely the advancement of science and the rearing of children. If a single generation could receive an education that was ideal for the development of personality the world would move forward in the life of that one generation far toward the fulfillment of our hopes, and beyond the expectations of any but the most prophetic minds.

The second speaker of the evening was Mr. Arthur Pound, of Flint, Michigan. Mr. Pound is an Editor and Publicist of note who has recently attracted much attention by his series of articles on "The Iron Man" published by the *Atlantic Monthly*. His theme for the evening was **Education and the Industries.** He spoke as follows:

It has been my luck for twenty years to live and work in factory towns at a trade which keeps one's mind open to new ideas and one's office open to all comers. I have been employer and employed; reporter, editor, printer and manager; proprietor, partner and shareholder in enterprises mostly concerned with spreading news and views. I have chased the payroll around the block both ways, as employé, trying to collect wages, and as employer trying to collect funds with which to pay wages. This is an exercise much in vogue just now and without which no one can lay claim to a catholic experience of business, just as no one can say he has lived until he has suffered. I have hired and fired, have been hired and fired and have bargained individually and collectively on either side of the council table. Yet with enough experience of business to have made me a business man if that experience had been assimilated in the usual way, I remain a newspaper man. That is, or ought to be, something quite different. Business men must be specialists, newspaper men are, or should be, generalists.

The raw material of news is life, a mysterious business which the specialists explain from this angle or that but which none of them can interpret to the satisfaction of everyone. An odd business, this complicated, ever-changing specta-

cle we call life! Here it is as Hutchinson describes it in "If Winter Comes," a noble novel, which all of us would be improved by reading.

> "Into life we come, mysteriously arrived, are set on our feet and on we go: functioning more or less ineffectively, passing through permutations and combinations; meeting the successive events, shocks, surprises of hours, days, years; becoming engulfed, submerged, foundered by them; all of us on the same adventure yet retaining nevertheless each his own individuality, as swimmers carrying each his undetachable burden through dark, enormous and cavernous seas. Mysterious journey! Mysterious and stunning sequel—Death, disappearance,—gone! Astounding development! Mysterious and hapless arrival, tremendous and mysterious passage, mysterious and alarming departure. No escaping it; no volition to enter it or to avoid it; no prospect of defeating it or solving it. Mysterious and baffling conundrum to be mixed up in!... Life!"

When one fixes upon a certain field as his to till and counts the tilling of that field his life work, he must perforce limit his horizon. He can not go vagabonding over the hills toward the New Jerusalem or presently he will be led over the hills to the poor-house. We must admit the economic imperative. Well and good, *but* he will get himself into no end of a mess if he becomes so immersed in his specialty, so stuck up in the gumbo of his field, that he fails to recognize at every step in his own domain that there is a New Jerusalem beyond the hills and a poor-house down there in the valley.

The world is full of specialists today while generalists are as rare as pessimists at a Chamber of Commerce dinner. And this is rather a pity since every development of a specialty brings more clearly into evidence the truth that life is one, a unity which, tho it may be taken apart in books, cannot be dissected in actuality without very ludicrous results. For instance, there was the case of old Seth Hawkins and his son, Judd. Seth lost his wife when Judd was a baby and, embittered of the world, he fled from civilization to the wilds of Minnesota and there undertook as his life work the raising of horses. There his son, Judd, grew up without seeing a railroad train, a school or a woman. All he knew was horses. At length his father, realizing that it was time for his boy to understand something of life, proposed a trip to Duluth. At the station the boy said, "What's that?" And the father replied, "That, my son, is a woman. I advise you to look her over carefully because in all probability you will marry a woman. In fact, when we reach Duluth, I am going to have you meet several young women, one of whom I want you to marry and bring back to the ranch which I will give you as a wedding present, together with all the horses. Then I am going back east to see the old homestead and after a while I will come back to see how you are getting along." Seth's program went thru. The son was married, took his bride back to the horses and the ranch in the wilds of Minnesota and after several months the father returned to inspect the new establishment. He found the boy looking rather glum and asked, "Where's the wife?" The son replied, "Dad, it's a darn shame. A couple of days after we got here she went out to get a pail of water and stumbled over that there log, broke her leg, and, of course, I had to shoot her."

Libraries are full of books on education, industry, economics and sociology which I have not had time to read, yet I think there is no sort of man in industry and no product of our educational system with whom I have not talked and heard thru to the end of his string. This establishes the viewpoint from which I speak to you on education and the industries, and particularly upon the problems which new tools and methods thrust upon those who are preparing youth for the complicated business of life. You must not look to me for expert testimony on machinery, or expert testimony upon pedagogy, but where the two cross in the tangled web of existence I may be able to throw some light. That the subject is of vital importance I do verily believe and the fact that I have been

honored with the opportunity to address you is proof that some of you, at least, are of the same opinion.

Furthermore, the astonishing reaction to my article in the October Atlantic on the social significance of automatic machinery proves a public interest far in excess of anticipation. That was an adventure of faith, undertaken on conviction of necessity, but support has materialized far beyond my wildest hopes, from which I deduce that the idea itself was in the back of many minds before I wrote it down. What a leading daily of the South is pleased to call "the most thotfull and thot-provoking discussion of education of recent years" takes on that caste, not because the author had any authority, but because the idea has authority. "There is nothing in all the world quite as potent as an idea whose hour has struck." In passing, let me add, that while certain conclusions and details have been questioned, my statement of facts and their major implications have not been questioned, but, on the contrary, verified by testimony sent in from many sections of the industrial field.

The word manufacture, as machines take the place of hands, is coming to be a contradiction in terms. The Germans with their instinct for verbal exactness describe more aptly in their word "Mechanofabrik" the quantity production of standardized goods through assembly of interchangeable parts and the control of natural forces by means of mechanical and chemical processes. The two fundamentals of "Mechanofabrik" are division of labor and skill—transference of the man to the machine. The idea of transferring the vital function of industry from the man to the machine seems to have originated with Sir Samuel Bentham, brother of the famous philosopher, Jeremy, about 1875. This was ten years after James Wilkinson made Watts' steam engine a commercial success by inventing a machine for boring cylinders, "true to the thickness of a thin sheet of paper," of which cylinders he produced fifty in the fateful year 1776. In that year man's age-old search for freedom was vigorously renewed, in politics thru the American Revolution, in individualistic economics thru Adam Smith's publication of the Wealth of Nations, in mechanics thru Wilkinson's making practical the steam engine.

Ten years after these birth throes of the new era Bentham, in southern Russia, was confronted with the task of building a Russian fleet for the Black Sea. With little skilled labor at his disposal and no time to train more he conceived the idea of transferring skill to machinery. On his return home, still possessed with this idea, he entered certain sweeping patents on wood-working machinery in the British Patent Office and later, as first lord of the Admiralty, found funds to turn his dreams into effective machine tools, designed by Brunel, a French engineer of American experience, and constructed by Henry Maudsley, England's leading tool maker. The admiralty's factory, opened at Portsmouth in 1805 for the interchangeable manufacture of ships' blocks, immediately multiplied the productive power of each worker by ten. There you have a prime reason why the British swept the seas clear of French ships and brot Napoleon to St. Helena, a prisoner. About the same time Eli Whitney working independently put the principle of skill transference into effect on this side of the water, and by 1812 he was able to write to the government of his New Haven Arms plant "its great leading object is to substitute correct and effective operations of machinery for that skill of the artisan which is acquired wholly by long practice and experience, a species of skill which is not possessed in this country to any appreciable extent."

From these beginnings the transferring of skill function from the man to the machine has proceeded relentlessly until in many operations which are of utmost social significance because of the large numbers employed, the rank and file workers have very little oportunity to express personality in toil or escape from the monotony imposed by attendance upon machines whose cycles they do not control. In the more highly automatized industries the majority of workers need not even understand the mechanical part of the process in which they are

engaged. Of course industry requires clearer thot and more alert understanding than in the old days; but in the fires of competition skill has been distilled from the broad lower reaches where the common man works to higher thot compartments. Executives, managers, salesmen, inventors, designers, tool-makers, shop-organizers, all these must think more quickly and accurately than their predecessors, but the machine tender need scarcely think at all in order to meet his strictly limited part of the production program.

Such is the modern complication of life that there are some five thousand occupations at which men and women win livelihoods. Some of these are not in any danger of being automatized to the point described, but in all of those lines of work which have the most social significance by reason of numbers employed and quantity of goods produced I hold it self evident that economic pressure will spread and intensify the use of automatic and semi-automatic machinery to the very furthest limits, further probably than any of us dream.

Now observe some of the results and tendencies. Quantity production has lifted the standard of living but has not raised equally the standard of conduct, or increased the content of the masses. Population of the earth has doubled in less than a century, but the sum total of human happiness appears even less than it was. The great problem of industry used to be handling of materials; it is now the handling of men. The great war proved that human society cannot absorb the wealth produced by our complicated industrial process without severe sickness, since competition for markets was a cause, I think the underlying cause, of the great war. And even before the war there existed an acute form of congestion in the social mind which we called social unrest and of which one prosperous dowager said "Well, if the laboring classes want more rest, why don't they take it?" It begins to look as if they were getting ready to take it. I have no objection to their doing so, providing they preserve life's finer values intact and vigorous in the process of taking over control. But those values must suffer at the hands of an uneducated, intolerant proletariat.

Your particular concern is with the youths and maids who leave your schools to become part and parcel of an industrial organization. With more than half the population of our country living in towns a very large proportion of your pupils are bound to be passing thru factory gates and offices within a few months after they leave your instruction. Of these some, no doubt, will achieve places in the directorate of industry, or, if not in the directorate itself, in its upper reaches where work is interesting, responsible and important for its own sake. While it is, of course, immensely important for them to have right attitudes toward society and their fellows, I am not so much concerned for them as for the others who are fated to cross an endless desert of routine. Such are bound to find difficulty in applying to their tasks any creative thinking because that has already been done. Beyond simple arithmetic and the power to read printed directions the job itself calls forth none of the intellectual powers and qualities with which you have been concerned. On the other hand, they are or soon will be citizens, members of families, church, clubs, social groups and political parties, and as such their reactions will help to make up the opinion which society holds at any given moment of industry and the economic-juridical system under which industry functions. Moreover they and their fellows in toil, the majority of whom would not rate above sixth-grade intelligence by Binet test, are coming into possession of more and more leisure. Hours of labor in mills and mines, at least, are being compressed, and, while such compression may be to some extent in defiance of economic law, still such reduction coextensively with a rising standard of living would have been impossible except for the multiplication of man power by machinery which enables human wants to be supplied with less effort than at any time in the world's history. Wants do increase but not fast enough; population increases but not fast enough; the standard of living rises but not fast enough to absorb all the goods the machine age can produce. Moreover, the most rapacious of all ultimate consumers, war, is now being legislated out of existence. Ultimately no doubt a new balance between productive power and

consumption must be struck, but for several generations and for a variety of reasons beyond discussion here it seems to me that leisure is bound to play an important part in the life of work-a-day America.

The situation, then, makes education for leisure important. There is very little use in teaching boys and girls processes which the shops, at much less expense, can teach their novices. Obviously the things which are required to be taught in the school are those which civilized living requires and which the shop cannot teach. The shop can teach and enforce concentrated attention and discipline in toil. It cannot teach breadth of view and self discipline in leisure. The average man in industry has so little chance for individualism in toil that he views his leisure as the most important part of his life, yet he is little prepared to use his hard-won, unpaced moments well and for want of a better outlet for his surplus steam, turns critically upon social and political as well as upon industrial institutions. Our public schools as an agency of government founded upon a constitution which recognizes the institution of private property, must therefore take into consideration the changing scene and orient itself to a novel situation. Education for life is one thing when work is the necessary and all-important objective of life, and quite another thing when leisure is the outstanding feature of the life of the masses.

In the coming days a good many of your students may have jobs like that of Jones. Jones left the Ford Plant and went down to New England where there still exist a good many small shops where all-around experience counts. At the end of his first day the boss called him in and said, "Jones, you told me you were a machinist. Where did you learn to be a machinist?" Jones said, "At Ford's." "What did you do at Ford's?" Jones said, "I tightened nut No. 87."

Not many of you would like to stand in Jones' shoes and tighten nut No. 87 in so many seconds month in and month out. You want more movement and responsibility and novelty in your task. You realize that no two individuals are exactly the same, that you differ from your neighbor, and you crave an opportunity to impress your uniqueness upon your environment. So does Jones and the fact that he and millions of other men cannot do so produces far more of this sickness we call social unrest than the mythical quarrel about division of rewards. Jones cannot express himself thru his work, therefore he must express himself, if at all, thru his leisure; and if he has not been trained in the ethical and interesting use of leisure, then he is going to lead a sour, embittered and in many respects anti-social existence.

At an automatic machine a worker must stew in his own juice. The machine calls forth only a fraction of his sentient powers. If he considers himself the butt of injustice, if he thinks of his immortal soul as cribbed, cabined and confined, if he feels that his family and himself are the playthings of titanic forces beyond his comprehension or control, then his mind feeds upon those cankers. He is a sick man, mentally and socially sick, his personality is out of key with his environment; he becomes the victim of possessed negative self-feeling. Dr. Stearns defines suicide as an extreme expression of negative self-feeling. The individual desires not to die physically but to kill his personality. He considers himself so out of harmony with life that life would be no worse and perhaps better with himself out of the way. Considering, in the light of my own observation, the repressive influence of machine processes upon personality, I am not surprised that in the sixty years in which Massachusetts changed from an agricultural state to one of the most highly industrialized in the union, her suicide rate increased in the ratio as five is to thirteen. If you agree that the end of all education is the setting up of right relations between the ego and society then I think you will agree that education whether of schools or press or public opinion has failed to place large numbers of human beings in right relation with industry.

At this point I am sure a good many of you are asking whether such right relations between humans and machines are possible. I beg the question. I

don't know, but some day our successors are going to find out. At times one becomes pessimistic enough to agree with the pet cynic or the Tribune that mankind needs another flood provided there were no arks handy. At present there is nothing for us to do but make what adjustments seem necessary, each in his own sphere. We are far from having exhausted either the social controls of industry or the possibilities of making life attractive and pleasant to those who are caught in the routine of our mills.

Let's go back to Citizen Jones and his nut No. 87. Monotony, while unspeakably dreadful to some persons, is by no means dreadful to very many more. The common man is not highly adaptable; original thot pains him and his ideal job is one providing minor variations inside a frame of monotony. The carpenter would be inexpressibly bored if he had to work on the same kind of house for ten years, but after all he would rather build his neighbor's house than paint his own. Habit—that true friend of the human family—comes to the rescue of Jones and his brother in overalls. If Jones has a serene home life, able-bodied and able-minded children, a thrifty wife, a few friends to smoke his pipe with, if he likes reading, fishing and such-like inexpensive pursuits, then his autistic thinking—the thots that come unbidden, the revery and day-dream—are bound to be wholesome. While the machine grinds along its predestined way, requiring his attention only now and then, the deeps of Jones' mind may be stirred by the picture of his garden at dusk, tender memories of his youth, joyous anticipations of his holiday, and comforting reflections on the fitness of things in general. In short, whatever elevating thots and noble sentiments and interesting information have pushed into Jones' mind help him, not only to pass comfortably and inspiringly the time after he has left the shop, but also to enjoy those vacations from consciously directed thinking which come to him while the machine rattles on its predestined course. A philosopher and a moron can both be happy on an automatic machine; the problem of the schools, therefore, is to make every man something of a philosopher, otherwise the moron has an advantage and you have a situation in which the race may deteriorate.

The great need of our times is cultural education for the masses and as the seed of culture must be planted in youth the public schools become the logical forcing ground. However, since the reorientation of life to toil in its newer phases affects not only pedagogy but likewise all the other processes of civilization, I do not place the whole responsibility upon education. There are corresponding readjustments to be made in political processes, work arrangements and in social norms. If I seem to stress the educational feature in this readjustment too much and place too heavy a burden on the already overworked school men of the country, it is simply because of the opportunity afforded by this audience. If I were talking to manufacturers, I would be talking cooperation instead of culture, and if to politicians I would try to give them at least a hint of political philosophy whether they took it or not. Early in life I was taught to beware of specifics. Shortcuts usually end in quicksand. Each generation, each locality has its own ideal and idea of culture. I have as great a horror of standardized culture as I have of standardized humans, so you must excuse me from offering concrete directions as to what you shall teach and how you shall teach it. If you were primary school teachers, I might hazard a program because I have four daughters in as many grades and the regimenting of their minds under our school machine is very interesting, both as to what it does and as to what it leaves undone.

However, in some respects, no doubt high-schools participate in and push forward certain tendencies apparent in society and noticeable in our grade schools and with which I am everlastingly at odds. Foremost among them I place the frequently expressed and more often implied worship of the modern Baal "Success." There may have been a time in America when everyone who lived and worked soberly and honestly could become independent or eminent or both, but at the present time I am satisfied that such is not the case. I doubt if it has ever been the case; certainly it has not been the case since the national domain was

largely exhausted. The majority of human beings as the army test shows lack the mental capacity for leadership. They are not adaptable enough, not reasonable enough, not sufficiently endowed with the instinct toward dominance or the power to will. They make up what I call the led-majority. They need bosses and they crave security. Yet for thirty years, at least, and probably much longer teachers have been pounding into these minds the fact that they must succeed. My teachers used to say "Any boy can be president." How about Jud Hawkins, the specialized horseman, could he? Now we are reaping the whirlwind where your predecessors sowed the wind. When an individual who cannot possible succeed in any large, generally recognized way is taught that he must so succeed, he cannot escape in after life a conviction of failure when he misses that goal. Our society is tainted today by the bitterness of persons possessed by what the psychologists call failure complexes, when in point of fact they have done about as much as could reasonably have been expected of them with their limited accountability.

Moreover, when you consider that the directorate of industry has been decreasing quantitively in relation to the mass, it is apparent that not all those mentally fitted for leadership can rise to leadership, simply because there is no room for them. Favoring circumstances, what the common mind calls luck, affect business and all its participants; and some who might qualify for high positions occupy inferior ones all their lives simply because, as Colonel Summers said, "Fate dealt them a deuce when they needed an ace to fill!"

All these people are of use in the world, most of them fulfill their domestic and social obligations fairly well, keep out of jail, pay their debts—and from the highest standards of human conduct deserve something better than a Scotch verdict on their lives. The fact that so many are under conviction of failure strikes me as indictment not of themselves, but of the instruction which held out to youth promises on which life must renig. Instead of saying to all and sundry, "Make Good" let us say to all and sundry "Be Good;" let our inspiration be toward moral excellence rather than material prowess. Let us teach for a while at least that it is more blessed to give than to get. In other words, let us perceive in education a mighty force for the cleansing and elevating of social values instead of using it as a whip to individual prowess. The instincts to acquire and dominate run constant and are not to be denied. Each generation inherits them intact and vigorous just as it inherits the tools and processes toward which those instincts work themselves out in life. On the other hand, the social instincts are less virile and must be continually fortified by instruction and example. All the political and economic influences of this new time force us more and more into groups, and unless we are able to improve our group processes, civilization can never be anything more than a dog fight. Consequently while I do not underrate the advantages of individualist teaching in past time, it strikes me that the social influences must be given more and more expression before the rising generation.

Another suggestion. I think it is time educators ceased paying so much attention to facts and paid more attention to principles. The minds we need from now on are those capable of perspicacity, the power to see thru things, minds possessing insight into relationships. Facts are easy to teach but after all they are not nearly as important as truths. Our society is now suffocating under an avalanche of facts which has come upon us so suddenly that as yet they have not pressed themselves into strata wherein gold is easily distinguished from dross. The result is that we attach undue importance to many things which are of no importance at all, exalting indifferent persons into heroes and generally exciting ourselves over matter which history will avoid mentioning except, perhaps, in satire. Those who profit by facts can be trusted to keep those facts readily available, but for those who aim at service instead of profit, it is more important to teach youth principles and standards to which facts can be referred at will than to burden youth with a meaningless load of data. I wish we could teach religion more effectively in the schools, not the religion of dogma and sect, but

the religion of mutual responsibility to a loving father and all wise judge, the religion of justice, mercy and brotherhood. That, I realize, is difficult under present conditions, yet, if religion be taboo, I think we might safely follow the lead of France and teach philosophy in our secondary schools, which merges indissolubly into religion on one of its many sides. Indeed, all that enriches and beautifies the mental life of the world leads somehow back to God, and the youth or maid who has been taken up into the high places and shown the glories of the kingdom of thought, must likewise travel as man or woman in that direction sometime, even after many years of doubt and suspicion.

Industry in all its levels requires "seeing" minds, although a good many industrialists in their blindness are satisfied with less. It needs them in the thot compartment and it needs them no less in the rank and file. For industry is a growth which must always draw sustenance from its roots. It is limited now in its power to produce both profits and boons by the fact that the led-majority has lost faith in its leaders and the leaders have lost faith in the good-will of their men. To examine the causes of this lack of confidence is beyond my province in this paper, but ignorance of economic, ethical and political principles counts heavily on both sides. For industry is not merely a collection of mills, mines and railroads in which certain persons busy themselves for wages; industry is society at work; it does not function well when society is ill; and society, under machine pressure, will stay ill till a larger percentage of individuals come to faith thru understanding.

To rebuild faith in human nature thru understanding its powers and limitations in society, is the task of all who count themselves teachers and leaders whether they occupy school platforms, public offices, pulpits, editorial rooms or seats in the front manager's office. Life is all of a piece, there is no breaking it up and saying "Here my duty ends and yours begins." The home welcomes the product of courtship, the school accepts the product of the home, the factory must take the product of the school. Love, Learning, Labor,—three in one—Life!

This is a tragic time in the world's affairs. We are mopping up after a debacle which all but engulfed our civilization. It is far from perfect, this civilization of ours, but after all it is the only one we have and if we lose it we shall never get another in our day and our children's children for many generations will have to rebuild painfully toward these heights. Most of us take our wages nowadays without elation, we realize the cash nexus, as Carlyle said, is not strong enough to hold society. Even the business world, callous tho it often is, now knows to its sorrow that bricks do not make a wall unless the bond between those bricks is strong. The whole world of work seems to me ready for the message that work shall be the slave of life, not the reverse, and that men shall take their wages as a proof of service, and an earnest of brotherhood, rather than as mere compensation for doing this or not doing that. Business, I am sure, is coming to ethics even as the professions have come to ethics, and all of us are going back some little way toward religion. In the east a light is breaking, its focal point is Washington. An era of reconstruction which has for its objective peace among men of good will is just beginning, and before its influence has passed many of the social, industrial and political problems shall have been solved in ways which cannot be foretold. Man must eat his bread in the sweat of his brow—again the economic imperative—but your job is to see that he does not eat it also in terror of his soul and the poverty of his mind.

### 3. Saturday Morning

This closing session was called to order at 8:30 A. M. with Superintendent G. P. Randle, of Danville, presiding.

Superintendent L. W. Smith, of Joliet Township High School, made a report of progress as Chairman of the Committee on Eco-

nomic High Schools. The report was accepted and the committee continued.

The Director of the Conference called up the report of the Committee on Objectives which was given Thursday evening and action postponed until opportunity was given for careful reading of the report. On motion this report was accepted. By request of the Director, however, the further consideration of objectives along the lines outlined by Dr. Charters at the beginning was referred to the Administrative Section of the Conference. A special committee was provided for by that section and this work now becomes a part of their program.

The next topic presented was **The State Educational Commission and its Objectives,** by its Chairman, A. M. Shelton, Crystal Lake. The speaker outlined briefly the scope and character of the work for which the Commission was created, and the general method of procedure to be followed. He bespoke for the Commission the hearty cooperation of all those interested in education and in the improvement of our school system.

Owing to illness President Livingston C. Lord, State Teachers' College, Charleston, was unable to be present. The Conference adjourned to meet November 23, 24, and 25, 1922.

# PART II

# SECTION MEETINGS

## 1. ADMINISTRATION SECTION

The section met at the Auditorium, the first session being called at nine o'clock by President W. L. Goble.

The section first considered the topic, "Extra Curricular Activities in Illinois High Schools." The committee had been working on the topic for a year and gave a very valuable report. The report was given by Principal Silas Echols. Discussion was later led by Principal L. M. Deam and Principal L. W. Hanna. The main report of the committee is given below in full.

The second topic of investigation was, "The Teacher's Part in Administration." The main report of the committee was given by Principal G. J. Koons and is printed in toto below. The discussion was led by Principal E. P. Nutting.

### Afternoon Session

The topic considered in the afternoon was, "The Minimum Requirements of High School Records." Dr. P. E. Belting gave the report as it is printed below, Principal W. C. Baer gave an interesting discussion. It was moved by Principal R. G. Beals and seconded that permanent record forms be adopted and State Superintendent F. G. Blair be requested to send the form to all the schools in the state. After some discussion, Assistant Principal James H. Smith moved to amend the motion to be postponed one year to give further time for consideration. The amendment and original motion prevailed.

It was moved, seconded and carried, that principals should have sufficient clerical help to keep efficient records.

It was moved, seconded and carried that this Association endorse the financial record published by the C. F. Williams Publishing Company of Albany, New York.

The latter part of the session was given over to the meeting of the Illinois High School Athletic Association.

### Noon Luncheon

The business session was held at the Wesley Foundation and the following officers were elected:

President, R. G. Beals, Taylorville, Illinois.

Three Year Committeeman, J. O. Marberry, Rockford, Illinois.

# The Status of Extra-Curricular Activities in Illinois High Schools

## Report of Committee
## Silas Echols, Chairman

One of the most important features of successful high school administration is the development of a satisfactory procedure in the conduct of extra-curricular activities. Perhaps, there is no better index of the tone of a school than the character of these activities. No principal may properly be designated a first grade administrator who fails to effect a practicable plan for general high school affairs and to see that his plan is followed.

Every thoughtful principal appreciates the tremendous power, either for good or bad, in pupil organizations. The problems relative to these organizations are numerous. It, therefore, seemed wise to the Executive Committee of the Illinois High School Principals' Association to sponsor a little study of the status of extra-curricular activities in the high schools of the state. The committee in charge of the study hopes that it may be sufficiently indicative of present conditions as to lead to two results: first, a dissemination of general principles of procedure in Illinois high schools, and, second, a suggestion relative to defects in the conduct of activities which may lead to some constructive work later.

The plan for this committee's part of the program today is, first, a statement of the results of the committee's questionnaire; second, a general discussion, as practical and specific as possible, led by two members of the committee. Several illustrations of successful methods followed in particular schools are desired.

The questionnaire, embodying suggestions from the president of this association and Professor Belting of the University of Illinois, as well as from members of the committee, was sent to two hundred sixty high schools of the state whose enrollment during the school year, 1920-'21, was seventy-five or more. Reponses were received from one hundred forty-five schools in time for tabulation. Of these, fifty have an enrollment of more than 350, sixty an enrollment between 150 and 350, thirty-five an enrollment of less than 150, which will be designated as large, medium and small schools respectively.

Because of the character of the responses, it seems best not to report athletics among extra-curricular activities, many well known schools having made no reference to athletics. Excluding athletic teams, the following activities are reported: (Fractions of a percent are not usually given). Orchestra in 64 percent of large, in 50% of medium and 29% of small schools; literary societies or clubs 90% large, 53% medium and 57% small; glee clubs, 62% large, 67% medium, 37% small; agriculture clubs, 16% large, 15% medium, 11% small; language clubs, 40% large, 12% medium, 6% small; dramatics, 54% large, 23% medium, 11% small; school paper, 36% large, 12% medium, 0% small; school annual, 20% large, 13% medium, 0% small; band, 26% large, 8% medium, 0% small; "Hi Y" clubs, 12% large, 8% medium, 6% small; social clubs of various kinds, 50% large, 41% medium, 34% small; science clubs, 36% large, 17% medium, 3% small; art clubs, 16% large, 0% medium, 3% small; commercial clubs, 8% large, 5% medium, 3% small; civics club, 6% large, 0% medium, 0% small; pupil government, 12% large, 1⅔% medium, 0% small.

In 38% of the large schools, 36% of medium and 23% of small, pupils are limited as to the number of activities in which they may participate. Where there is limitation it is usually based on the scholastic standing of pupils as evidenced by teachers' marks.

Eighty-two percent of large schools employ teachers with the idea that they can take charge of activities, a policy that is followed in 86% of medium and 61%

of small schools. Ninety-four percent of large, 97% of medium and 89% of small schools have teachers in charge of all activities. Pupils are permitted to choose supervising teachers in 28% of large, 27% of medium and 17% of small schools. In other cases supervisors are chosen by faculty or principal, usually the principal.

A little more than half the schools limit teachers in the number of activities they may supervise. Where teachers are limited in the number of activities, the usual custom is to permit only two. One-hundred twenty-one out of the 145 schools listed report that the nature of the teacher's supervision is that of actual leadership which manifests itself in help rendered in making programs, plans, etc. Teachers who supervise activities are given exemption from regular class or study hall duties in 46% of large, 32% of medium and 17% of small schools. In 20% of large, 15% of medium and 6% of small schools teachers in charge of activities are given extra pay.

Ten large schools, 27 medium and 15 small report that 50% or more of the meetings of pupils engaged in extra-curricular activities are held during school hours. Twenty large, 45 medium and 21 small schools conduct 50% or more of the meetings during the day, but not in school hours. Seven large, 18 medium and 13 small schools permit meetings at night. All the large schools and all but five of the medium and five of the small state that a teacher is always present at meetings.

One hundred four schools have pupil treasurers. Eighty-three have general high school treasurers. In several of the schools having general high school treasurers there are also pupil treasurers, some of whom, as would be inferred from the figures given above, are responsible directly to high school treasurers. Forty-four percent of large schools, 32% of medium and 31% of small have the accounts of their treasurers audited by an accountant appointed by the Board of Education. In 27 large schools, 51 medium and 19 small schools the control of the finances of activities is under the direction of principal or faculty. Six large, 12 medium and 5 small schools permit purchases from merchants by pupils without an order from principal or teacher. There are seven large, 19 medium and 10 small schools in which regular financial reports are not made to the principal.

Forty-four percent of large, 50% of medium and 23% of small schools grant credit toward graduation for extra-curricular activities. Forty percent of large, 18% of medium and 11% of small schools permit credit granted for such activities to take the place of scholarship credit. No small schools give credit to a pupil merely for membership in an organization, while three medium and four large schools permit this practice.

The question, "Is there correlation between the work of extra activities and the regular work of the school, for example in agriculture, art, etc.?" was answered in the affirmative by 32 large, 36 medium and 12 small schools. There are 36 large, 29 medium and 12 small schools in which there is correlation between extra-curricular activities and community affairs such as Red Cross, community entertainments, commercial club and woman's club work.

Only seven large, 11 medium and six small schools have activities organized on no definite basis. Twenty-one large, 31 medium and 11 small schools report that the basis of organization is that of teachers' judgment of what pupils should do. Thirty-one large, 47 medium and 13 small schools state that the basis of organization is pupils' interest.

All but twelve of the 145 schools reporting state that classes give parties. In 110 schools, organizations other than classes give parties. All but two large schools, 4 medium and 5 small report that all parties are supervised by faculty members. One large, 14 medium and six small schools do not require pupils to hold their parties at the high school building.

Forty-three large, 25 medium and 14 small schools permit dancing. Twenty-four large, 23 medium and 11 small schools which permit dancing give 50% or more of the evening to it. Forty-two large, 36 medium and 12 small schools make special efforts to provide attractive features for those who do not dance. There are 15 large, 35 medium and 17 small schools which permit pupils to give parties in which dancing is the only feature.

Supervisors in 42 large, 48 medium and 25 small schools prescribe hours of parties; in 23 large, 20 medium and 10 small they prescribe dress; in 42 large, 50 medium and 23 small they prescribe place; in 42 large, 42 medium and 19 small they decide what pupils are to be invited; and in 38 large, 43 medium and 20 small they prescribe the amounts to be assessed pupils for refreshments, decorations, etc.

The most important data tabulated may be roughly grouped under five headings, namely, Scope of Activities, Supervision, Finances, Credits and Correlation, and Social Life. A consideration of these data has made the following impressions on the writer.

The scope of extra-curricular activities in Illinois high schools is large. Practically no line of student interest is without representation in an organization somewhere. But only three activities are found in more than 50% of all schools. They are orchestra, literary societies and glee clubs. It would, therefore, seem that principals and teachers should make an effort to determine, within certain limitations, what activities may profitably be encouraged among high school pupils.

An important question suggested by this study and one which cannot be adequately answered from the data available is "What percent of the pupils in high schools are engaged in no extra-curricular activity at all?" My impression is that the percent is entirely too large. On the other hand, the figures suggest the danger that several activities in schools may be dominated by the same groups of pupils. Consequently, school administrators should encourage every pupil to become actively identified with at least one school enterprise other than his class work and should discourage a monopoly on the part of the more aggressive pupils.

The data relative to supervision indicate a wholesome situation, first, in that at the time teachers are employed the question of fitness to take charge of activities is usually considered; second, that very few schools permit activities without a teacher in charge; third, that popular teachers are not permitted to monopolize supervision; fourth, that supervision is of an aggressive type, yet (pointed out in several reports) such as not to discourage pupil initiative; fifth, that only a small percent of schools permit meetings without the presence of a teacher. Perhaps the last consideration compensates largely for the questionable practice of thirty-eight schools in permitting night meetings. The plan of the 48 schools which give supervisors of activities exemption from class or study hall duties or that of the 21 schools which give them extra pay is commended as a matter of fair treatment as well as one which should produce more effective supervision.

In the important matter of financial control, there is much to be desired. No doubt, students should have some responsibility in connection with the finances of their activities, but the general plan of providing a high school treasurer from the faculty to whom the organization treasurers are directly responsible is very commendable. Every school should have a carefully prepared system of handling organization funds which will provide for adequate auditing of accounts, for regular reports to the principal and satisfactory checks on all purchases. It is encouraging to note that a considerable number of schools are doing these things.

It seems to the writer that the custom of 60 schools in giving credit toward graduation for extra-curricular activities is a good one, provided there is a regulation that no credit be granted except for work of a certain standard. The efforts of more than half the schools to correlate the work of extra-curricular activities with regular class work and general community enterprises are worth while in providing motives.

The management of social affairs is evidently given careful attention by a large majority of schools reporting. The supervision, on the whole, appears to be good; one of the most commendable features being the attempt of 96 schools to democratize parties by providing attractive numbers for those who do not dance as well as those who do.

**The discussion was led by L. W. Hanna, of Centralia, who spoke as follows:**

The one big outstanding feature of the report which has just been presented is the scope of extra-curricular activities engaged in by the high schools of Illinois. It would be interesting to know how rapidly these have been growing in the schools and what has occasioned this adding of one activity after another to the school curriculum and to loading of teachers and administrators with extra duties. I am sure that many of you have felt with me that about the only time left when you can hold a meeting of teachers when it will not interfere with one or more of these activities is Sunday afternoon and even then the orchestra or glee clubs are likely to be in action or the Hi Y club meeting for work. The arrangement of studies in a school program, once considered a rather difficult task becomes easy compared with arranging extra-curricular activities in such a way as to avoid conflicts. Teachers cannot safely arrange for an after-school conference with a pupil without first consulting his extra-curricular program, for to take the first soprano from the glee-club or the first violin from the orchestra is to upset the work of the entire group.

The report just given does not even question the validity of such activities but assumes that every well organized school has a place for many of these activities and that they are very properly a part of the school exercises. This would indicate that few of us question the contribution which these activities make to the school. I am wondering if it is not possible and even very probable that these various activities have been tied to the curriculum as extras because the curriculum itself no longer touches the real life interests of the students; that we have consciously or unconsciously been attempting to fill up a lack in our school program by placing those activities which are close to life itself and constitute a very vital part of the student's real living as extras, keeping the large place and formal place in the program of the school for the subjects of tradition.

This conference has been working for two years on the problem of objectives in education and most of our work up to this time has been given over to finding the proper objectives and analyzing them without regard to their place in the curriculum and with no thought as to the time they should consume in the school program. The next step is to arrange the objectives in order of importance. Would it not be a pertinent problem for a committee from this organization to study these objectives with a view to finding out how many which are rated high in value in high school education belong to what are now classed as extra-curricular activities? This would be in keeping with the program laid out for the conference by the director and might result in a real contribution to the solution of our problem.

If we select our teachers because of their particular fitness to carry on these activities and take into consideration these activities when arranging their duties and salaries, is it not a fair indication that we rate these activities high in educational importance. Many a teacher, I dare say, owes her position to the fact that she is expert in directing a glee club or an orchestra or in directing one or more of the other activities enumerated in this report. Would not a further study of this report and a close study of these objectives indicate that many of the activities now classed as extras are beginning to claim a place in the formal part of our school program because they rank as high in value in respect to life interests as do many of the subjects which have been dignified by a large place in our school program for years?

With this in mind it seems to me very unfortunate that some teachers take no part in these activities but limit their work to the formal class-room exercises.

Such teachers can scarcely hope to really become acquainted with their pupils or to exercise a large influence over them. These extra-curricular activities more nearly touch the real interests of pupils very frequently than do recitations in geometry or English composition. Until such time as our class-room exercises have in them the materials which make up life itself, it will be a serious mistake to assign to a few teachers employed for that distinct purpose these so-called outside activities. The contact with life interests of the pupils which a teacher gets through these extra duties changes a job into calling and a task into privilege. I should regret to see my teachers give up their work in the informal part of the school programs but not more in most cases than these teachers would regret to give them up.

I believe it would not be a wise undertaking for this body to attempt to say what activities should be included in the extra-curricular part of the school program. Frequent inquiries are sent to high school principals as to whether or not dancing is permitted as a legitimate part of the social program of the school. I do not believe this question can be answered in an arbitrary way for all schools. If dancing can be made to contribute in a positive way to upbuilding the spirit, and refinement in the school and enrichment of the lives of students and teachers, then it should be a part of the extra-curricular program. If the machinery for control and supervision of such an activity is lacking, then by all means it should not be put into the list of activities for which the school is responsible. The same may be said of sports. Athletics in those communities where control is lacking are of very doubtful value and are even demoralizing and degrading. The two questions to answer before adding another to the list of school activities are: "Will it contribute in a wholesome way to the life of the students?" and, "Has the school the machinery to properly direct and supervise the activity?"

These activities will certainly multiply as community and life interests multiply and the school must stand ready to do its part in making these interests count in attaining life objectives.

## Report of Committee on The Teachers' Part in School Administration

### Presented by G. J. Koons, Chairman

It has been the purpose of the investigation conducted under the direction of this committee to determine the present status and the trend of this comparatively new movement in education. Three sources of information have been made use of,—the available printed material on the subject, the opinions of the high school teachers themselves, and the opinions of high school principals. The investigation has not been sufficiently exhaustive as to result in a carefully worked out statistical study but rather to get a general idea of the present trend of the movement.

Already there has sprung up an interesting lot of printed material on the subject. For those who are especially interested a few of the most helpful articles on the subject will be mentioned. Prof. D. J. McDonald wrote an article for the September, 1921, number of the School Board Journal entitled "Democracy in School Administration." As the title would indicate, Prof. McDonald treats the subject from the standpoint of the ideals of democracy. Mr. Wm. L. Ettinger, Superintendent of the New York City schools had an article in the November, 1920, number of the School Board Journal. In the November, 1920, number of the School Review, Principal B. C. Richardson of the Theodore Roosevelt High School, Alton, Illinois, has an interesting article on "Faculty Organization in the Theodore Roosevelt High School." One of the best discussions and summaries of the movement is to be found in Prof. J. B. Sears' article in the October, 1921, number of the School Board Journal on Teacher Participation in School Admin-

istration. At the close of Prof. Sears' article is found a good bibliography of the subject.

The movement is not as new as many may be inclined to think that it is. Undoubtedly from the time that school executives first became a part of the school system they have called upon those working under their authority for assistance in their administrative duties. However, it is only within recent years that organized methods of participation have been adopted as a definite school policy. The recent emphasis placed on democratic ideas and ideals together with the movement to organize teachers' federations affiliated with labor organizations have probably been the most important factors in stimulating the rapid growth of the movement. The Decatur High School under the principalship of Mr. Jesse Newlon was one of the pioneer high schools in Illinois in undertaking something of this kind. The method of appointing committees to assist in the administrative work of the high school introduced by Mr. Newlon has been continued by Principal Deam to the present time and according to Mr. Deam's report has produced very satisfactory results. Illustrations of the three typical methods of participation mentioned in the recommendations of the committee may be found as follows: faculty committees, Decatur High School; teachers' association, Pontiac Township High School; teachers' council, Chicago.

In order to get the point of view of the high school teachers, opinions were collected from sixty high school teachers from high schools located in different parts of the state. Through the courtesy of the principals answers to inquiries were received from high school teachers in Belvidere, Princeton, Olney, Murphysboro, and Pontiac. Ninety five per cent of the teachers replying were favorable to some form of teacher participation. The forms of participation most often suggested by them were the making of the courses of study for their own particular subjects and the direction of extra-curricular activities. It may be of interest to know some of the sentiments expressed by the teachers. One writes, "The relation of teacher to principal may be compared to the relation of the President and his cabinet, the teachers each responsible for his own department, but subject to the authority of the principal, and at the same time the group of teachers acting as an advisory board for the general conduct of the school. I believe that school is best organized and controlled in which teachers are allowed initiative and given authority in their various departments, so long as the exercising of such initiative and authority interferes in no way with the general conduct of the school, which should of course at the last word be in the hands of the principal." Another teacher says, "Teachers should have a part in the organization and administration of the high school. Greater interest will be aroused and more intelligent work be done in this as in any other business when the employees feel that they are a part of the system."

The following suggestions were made by the teachers as ways in which they might cooperate in school administration:

1. Making courses of study.
2. Take charge of student activities.
3. Assist in making rules of conduct.
4. Determine time and kind of recreation of pupils.
5. Organize her own department.
6. Recommend text books.
7. Teachers should be represented in the meetings of the board.

Inquiries were sent to thirty principals. Twenty five replies were received. Ninety per cent of those replying were favorable to the movement and had themselves tried out some form of teacher participation in their own schools. Some interesting observations as to the advantages were reported. Prin. B. C. Richardson of Alton reports, "Better attention to details, better control, better organization, smoother running." Prin. Willing of Springfield says that it "insures support of school policies, checks hasty dogmatic administrative impositions." Prin. Kingman of Ottawa, "Teachers take more interest in their work when given a

hand in management.'' Prin. Brown, Manual Training High School, Peoria, ''Better order, more solidarity of school.'' Prin. Goble, Elgin, ''Faculty plans revert back to teachers for carrying out. Teachers cannot plan simply for office administration. Teachers support administration when they are the administrators.'' Prin. Wellemeyer, Quincy, ''Teachers assume responsibility and display interest which they did not have before.'' Prin. Keller, Waukegan, ''Better understanding of whole school situation.'' Prin. Lau, Rock Island, ''Greater interest; professional attitude better.'' Prin. Echols, Mt. Vernon, ''Creation of a spirit of cooperation; creation of a feeling of responsibility for the affairs of the school as a whole.'' Prin. Van Buskirk, Peoria, ''Cooperation, harmony, satisfaction.'' Prin. Waldrip, Streator, ''More interest.'' Prin. Smith, Joliet, ''Teachers understand the administrative point of view in a better way.''

All reports, however, are not as satisfactory as those just quoted. One principal reports that the plans that he had tried did not prove to be satisfactory. He says, ''I have succeeded, however, in getting rid of the administration in the following departments: a-Athletics; b-Senior Annual; c-Dramatics; d-Social Center. I find that teachers who clamor for 'participation' when they get it, are not equal to the responsibilities.'' Some of the most enthusiastic supporters of the plan find also that there are some accompanying disadvantages. The following disadvantages were reported: ''Some work has to be done over by the principal;'' ''Occasionally a lack of uniformity of procedure, methods, etc.;'' ''Lack of initiative;'' ''Greater cost;'' ''Encroachment upon teachers' time;'' ''Occasional lack of coordination but this is not serious;'' ''Work is not always carried through as you would have it done; but it is done, whereas, the principal might not have been able to do it all on account of lack of time.''

Many specific accounts of what is being done in different high schools throughout the State might be given. A few instances, however, will suffice. A good illustration of teacher participation through committees in working out the various courses of study in the high school may be found in the Ottawa Township High School. A quotation from the Ottawa Township High School catalog for the year 1921 will explain the method of procedure adopted. ''In the Fall of 1920, the High School faculty was divided into committees which held frequent meetings through the year for the purpose of studying the courses offered in our High School with particular reference to the aims and content of such offerings. These committees included in their study the curriculums of the best modern high schools of the country. The pages of this year's catalog are in considerable measure the results of the work accomplished by these various committees. Too often in the past the courses of study have been manufactured by principals, largely with the 'aid of paste pot and scissors'. The Ottawa Township High School faculty have been given a free hand in the revision of our courses where revision was advisable at the present time. They have brought to their aid very extensively the advice and writings of experts in the teaching profession.''

An illustration of teacher participation through the organization of high school teachers' associations may be found in the Pontiac Township High School. This year the high school teachers in that school organized as the Pontiac Township High School Teachers' Association. The plan of organization provides for the election of the usual officers and the appointment of such committees as may be decided upon. The officers of the Association with the assistance of a program committee arrange all details pertaining to the regular meetings of the Association. The Principal is given a place on the program of each meeting to present any matters of general interest pertaining to the school that he may care to present. The committees appointed for the present year are Research Committee, English Committee, Health Committee, Program Committee, Social Committee and a Committee on Athletics.

The committees are not organized as is often the case simply to make investigations and then to report to the teachers. They are to make investigations in their particular fields and report with recommendations to the Association at

a regular meeting. Their recommendations are submitted for discussion and approval of the other teachers. If their recommendations are approved the committee is then given authority and held responsible for carrying out of their suggestions whenever such a course is possible. In this way the teachers not only participate in determining new policies but are also held responsible for their being carried out. The fact that new plans must meet with the approval of the other teachers and that they themselves are to be responsible for their success when put into practice naturally tends to result in a careful consideration of all suggestions before they are presented.

The plan of organizing teachers' councils is that adopted in the larger cities where it is impossible or at least not advisable to have a meeting of all of the teachers at one time because of the large number of them. In such case it becomes necessary to organize them into groups and to send representatives from the smaller groups to meet together. The plan adopted for the Elementary School Teachers' Council of Chicago although not a high school organization may be used to illustrate the plan.

"At the meeting of the Board of Education in August, 1921, authority was given for organizing an Elementary Teachers' Council. The following is the plan of organization:

1. Local Councils.—One in each school, composed of all the teachers in that school, (the Local Group is the foundation of all democratic institutions).

2. Group Councils.—One for each, say, two hundred teachers from schools adjacent or easily accessible by transportation lines. This would provide about forty groups.

3. General Councils.—Composed of one delegate from each of the Group Councils. This Council would meet with the Superintendent of Schools.

It is the thought of the Superintendent that the teachers themselves in any one of the councils may originate subjects for discussion by each of the other councils, or, that each of the councils in turn may consider subjects at the request of the Superintendent.

The procedure of the councils, when established, is a matter for the councils to determine. The point is that the Superintendent wishes to provide regular meetings for discussion by the teachers, in groups,—of the subjects which they themselves wish to submit to the Superintendent for the good of the system or those on which the Superintendent may from time to time request their advice.

The investigation conducted under the direction of your committee on the teachers' part in school administration has resulted in the following conclusions:

1. The movement to give teachers a larger share in school administration has spread rapidly within the past few years and has been adopted as a definite and permanent school policy in a large number of cities.

2. Principals and superintendents in the places where it has been tried out are almost unanimous in their approval of it as a plan that results in increased efficiency in administration.

3. The teachers themselves are almost unanimous in their approval of some kind of teacher participation in school administration although there is much difference of opinion among them and in many cases their ideas are indefinite as to the methods to be used in securing such participation.

4. Reports from places where some form of teacher participation has been tried indicate that the advantages greatly overbalance the disadvantages and that the morale of the teaching force is much improved by it. A greater interest in the school as a whole, a better spirit of cooperation, and an improved professional attitude on the part of the teachers are some of the advantages reported.

5. There is a considerable diversity of methods adopted in the different places reporting the adoption of some form of teacher participation. Teachers'

councils in the larger cities; teachers' associations in the smaller cities; teachers' federations, principal's cabinets, and committees are the methods most commonly reported.

Since the movement meets with general approval, appears to be based on sound educational doctrine, and promises to increase the efficiency of the schools, your committee believe that it is the duty of school executives to give consideration to the principles underlying the movement and to give careful study to the different methods employed in putting it into practice. Based on the available printed material and opinions collected from high school teachers and principals your committee desire to submit the following recommendations:

1. Teacher participation when decided upon by the school authorities should be introduced gradually and extended as the interest developed and results secured justify extension.

2. A distinction should be made between that part of school administration which deals with the determination of school policies and that part which deals with the execution of policies after they have been adopted.

3. The head executive officer of the school should retain without dimunition his executive authority in carrying out adopted policies and in the general management of the school. He may delegate executive authority to individuals or to committees but in all such cases the final responsibility rests upon him.

4. Provision should be made in whatever plan is adopted to give to every individual teacher an opportunity at least to assist in determining school policies, particularly the construction of courses of study.

5. The privilege or opportunity of taking some part in determining school policies should carry with it whenever possible some definite duties and responsibilities. Probably through delegated authority in the execution of school policies a proper sense of responsibility may be developed.

6. The methods adopted in order to secure teacher participation in administration should be such as are adapted to the needs of the local situation. Three common types of organization are worthy of special mention: faculty committees, teachers' associations in the smaller cities, and teachers' councils in the larger cities.

7. The plan of organization for securing teacher participation should be provided for by the regular school authorities by the adoption of some definite scheme rather than through some such organization as a teachers' federation affiliated with labor organizations.

The discussion of the above report was led by **Principal E. P. Nutting, of Moline,** who spoke as follows:

Ever since Mr. Wilson's famous utterance about making the world safe for democracy much has been said and written that would seem to indicate that the principle of democracy as it exists in political affairs should at once be carried over into industry and education, as a sacred thing *per se.* If this idea has come from political life, as seems to be the case, it is only fair to consider how widely and under what conditions it is successfully applied there. We find that in only a few of the principal nations of the world have the people organized a government democratic in both form and spirit; in only two, in fact,—France and the United States. England has the spirit of democracy without the form, while Russia, Mexico and China are conspicuous examples of governments having the form without the spirit. No one would attempt to classify Germany at present. Moreover there are some hundreds of millions of people in Asia and Africa that the most enthusiastic advocate of democracy would hesitate to bring under a democratic form of government at all.

The situation thus described in political administration affords an analogy that will hold very closely in our educational practice. If so, we can safely set down these truths as pretty well established:

Democracy is of value only as it is successful. It is successful only when the people using it are ready for it by nature or by training. It is not dependent upon form but upon spirit; so it may exist at its best under quite another name, and it may on the other hand be practically non-existent where every possible mechanical device has been used to establish it.

Democracy in high school administration must justify itself not as a divine right of teachers, but only as it makes better schools now, or makes them more possible in the future. No one, I think, would question the value to the individual teacher of direct participation in the management of a high school. But the effect on the school might not be entirely beneficial. It would be a fine experience for each and every citizen of the United States to have some direct voice in the conduct of the nation's affairs, but it would probably go hard with the nation, to say nothing of the impossibility of carrying out such an idea.

Now before any high school can successfully bring its teachers into any considerable participation in the administrative work these conditions, it seems to me, must exist:

*First,* A good percentage of the teachers must have administrative ability and must desire or be willing to use it. Comparatively few show this in any marked degree according to my observation. Training and an opportunity to exercise it would undoubtedly increase the percentage. But it is a gift which some have and many do not have. An adequate salary schedule is of course essential for securing teachers of this type, for they are in demand.

*Second,* The teaching force must be fairly stable. Teacher "turnovers" of fifty percent each year, such as many of the high schools of Illinois have experienced during these recent years of war conditions and inadequate school revenue, would completely nullify the most earnest efforts to develop administrative ability in the staff of instructors. Here again the salary schedule is a vital factor.

*Third,* The teaching load must not be so heavy as to require all the time and energy of the teacher, if administrative work is expected of him, for such work makes a heavy demand upon the teacher, particularly if he is a novice at the work. Here too the question of adequate revenue controls for without it crowded sections and full programs are inevitable.

*Fourth,* The selection of the teaching force must be in the hands of the principal, if harmony and co-operation are to mark the work of administration.

Unless these four conditions exist any attempt to distribute the administrative work widely among the teaching force will only lower the efficiency of the school. If these favoring conditions *do* exist, it becomes only a question of the form of organization to employ, and the extent to which the principal can afford to share the real responsibility for the school's policies.

The time limit on this discussion prevents consideration of the various forms of organization thus far tried out, for they are many and varied, not to say complicated, in some cases; but I would like to say a word or two by way of caution against expecting too much from any rapid extension of administrative authority among the teaching force.

Our presidents from Washington to Harding have found that they could not to any great extent share the real work of administration, the formulation of important policies, even with their chosen cabinet members. They have sought advice freely, of course, and they have delegated large responsibilities from time to time to certain tried and trusted associates, but the real formulation of policies, and the choice of means for the carrying out of policies they have been obliged to retain in their own control. Washington with all his tact was unable to get united action from even his small cabinet of four members, much as he

desired it. Lincoln was wise enough not even to try it, but contented himself with getting their best judgment and then often acting counter to it. Roosevelt carefully hand-picked his advisers and so secured a high degree of harmony in his administrative family, but its members never labored under the delusion that they were joint administrators with their chief.—Roosevelt did the administering.

It seems to me that in our task of administering our high schools with the aid of assistants ranging in number from one to more than one hundred we can wisely imitate the example of these three greatest of our national executives. We should ask advice often, we should welcome suggestions always, we should even sometimes put the responsibility for important decisions upon the shoulders of our more capable co-workers, when that can be done without risk to the success of the big enterprises that we are directing. In the larger teaching forces, of course, the heads of departments will be the ones most commonly consulted, and the ones from whom suggestions will commonly come, but access to the principal should always be easy for even the least experienced of the force. More than this, it seems to me, cannot safely be done under existing conditions. And I question if the thoughtful teacher would advise that more than this be done.

It may be said that this is not democracy, but rather an autocracy, possibly efficient, and perhaps benevolent. To this objection I can only say again that democracy is not a thing of organization or form, but of spirit. Any school in which the members of the teaching force feel that they are co-workers with the principal in a common enterprise; a school in which each teacher feels toward his *work* rather than toward some superior, the obligation to do his best; a school in which the teacher feels that he is at liberty to employ his own methods and make new advances in his special field, provided only that good results are secured, —such a school is democratically administered whatever may be the *form* or *machinery* of administration, for the men and women in it are free in spirit, rendering service gladly in co-operation. Such a democratic spirit is essential in the teaching force of any American high school that aims to do the best work. Every principal should examine his school to see if this spirit be present in it. If not, there is probably something wrong with the attitude of the chief executive toward his assistants, and the trouble is too fundamental to be remedied by the introduction of administrative devices however excellent.—If this spirit *is* there, its development can be wonderfully aided by a judicious use of these devices, but their mere presence in the high school system will never produce it.

## Report of the Committee on Minimum Requirements of High School Records

### Dr. P. E. Belting, University

The Illinois High School Principals appointed a Committee, consisting of Principal Beals, Taylorville; Principal Baer, Danville; Principal Anspaugh, Farmer City; Principal Flanningham, Urbana, to study the question of, and report to them on a uniform system of records for use in the high schools of this State. I was asked to assist the Committee in this work. Accordingly, copies of the following letter were mailed to some 400 Illinois high school principals:

March 5, 1921.

My dear Principal:

The Illinois High School Principals' Association through Principal Beals of Taylorville has asked me to act as chairman of a committee to study the question of and to report on a system of uniform records for the high schools of this state. Moreover, students in my classes, especially during the Summer Session, want specific information as to the common high school record blanks. One important method of handling these problems is to collect the samples of the high school record forms now in use.

Therefore, will you send me a copy of *each record form* that you use in your high school? If some or all of your records are in book form so that it is impossible to send a copy, won't you indicate in a letter to me what permanent high school records you have and what each contains?

We shall await your reply with a great deal of interest.

More than 200 high school principals complied with the request for the records that they were using and frequently expressed deep interest in helping to improve the record system in Illinois. It is evident from this material that there are some schools where fairly complete and accurate records are kept, while there are other schools where hardly the beginning has been made in the adoption of adequate records.

In the first place, the records are defective because there is no provision for the compilation of material concerning any child that extends over a period of years. Study programs, grade cards and attendance records, are made and kept for a year or two at the most, so that it is practically impossible to gather complete information about an individual throughout his whole high school career.

In the second place, the kind of material collected may have little functional value, although it may serve to answer questions required by law. In the third place, there is little uniformity between high schools, even in the same locality, so that comparisons are impossible or can be made only with a great amount of effort.

In the fourth place, there is lack of organization and compactness in high school records. For instance, the high school enrollment card may ask whether the pupil has been vaccinated or whether he has defective eyesight or defective hearing and, at the same time, have another card on which these and other specific questions regarding the physical equipment of the pupil are asked. Therefore, due to the lack of continuity, due to the lack of functional value, due to the lack of uniformity and due to the lack of organization, the assembling of statistical material relative to one's high school pupils is a difficult matter and at times impossible.

The accurate keeping of complete high school records involves a considerable amount of work. Under the present organization the principal usually is supposed to do the school bookkeeping and act as errand-boy for the whole institution. Now there is no disposition on my part or on the part of the Committee to increase the mechanical work of the high school principal. In fact, boards of education and city superintendents should see the absurdity of employing a high school principal whose chief functions are supervision and initiation of policies within his own school and then require that he take much of his time in handing out chalk, paper and pencils, answering the telephone and transacting business with casual callers, determine the temperature of the classroom on cold days, investigate the efficiency of janitorial service, keep the attendance records, fill out report cards and see whether the grass on the lawn has been cut. This is the kind of work that should be delegated to the subordinate clerks, so that the principal may get out into the classroom, where he belongs, in order to act as supervisor instead of inspector only. Under such reorganization the principal can put some thought on the question of high school records.

The purposes of school records are to help describe the field of educational endeavor and to aid, so far as possible, in showing the results of such work. This can be done only by a system of accurate and complete bookkeeping dealing with teachers and pupils as individuals and groups and the cost of education in terms of ratios, relations and effects. For example, take the case of high school failures. These records should be of the nature to answer questions like the following:

1. How extensive are failures of high school pupils—of boys, of girls, of those who quit before graduation, of those who graduate.

2. In what subjects are failures greatest, least. In what semester are failures greatest. For example, 1st or 8th.

3. What is the relation of the following to failure and elimination—attendance, mental and physical defects, age, size of classes, age on entering, initial high school record, the subjects selected, curriculum selected, graduation, repetition of subjects, being a boy, being a girl, length of time in school.

What is desired then is to find common characteristics which will show the way for some form of administrative treatment. If, for example, it is found that the students fail worse on the first repetition of algebra than they do initially and still worse at a second repetition, than at the first repetition of algebra, why should such pupils be compelled to repeat that subject? At any rate high school records should aid in answering that question.

In consideration of records and reports, it has been thought wise to think of them in terms of the outline which follows:

### An Outline of Some School Records

A. Records and reports involved in general control of a school system.

I. Board of Education records.
1. Minute Book.

II. Records of Secretary of Board of Education.
1. Budget.
2. Requisition.
3. Purchase Orders.
4. Bid Form.
5. Purchasing Lists.
6. Catalog Index and File.
7. Order Register.
8. Invoice-Voucher.
9. Payroll.
10. Warrant Register.
11. Distribution of Expenditures.
12. Cash Book.
13. Financial Reports.

III. Records for the Chief Executive Officer's Office.
1. Map of High School District.
2. Permanent continuing record book. (Permitting a scientific study of school system and community.)
3. Monthly and annual reports on attendance, classification and progress of children.
   (a) Non-High School Tuition Charges.
4. Monthly and annual report on time and work accomplished.
5. Monthly and annual report on health.
6. Monthly and annual report on building.
7. Permanent student record of high school pupils.
8. Teachers' records.
   (a) Record of permanent teaching force
   (b) Substitute teachers.
9. Letter files for
   (a) Communications.
   (b) Applications.
   (c) Returned reference and information blanks.
10. Teachers' programs.
11. Courses of study.
12. Curricula.
13. Text-book recommendations.

14. Educational supply records.
15. Teachers' meetings.
16. Directories
    (a) City
    (b) Officers and teachers.
17. Chief Executive's reports on educational needs and progress.
    (a) Monthly
    (b) Special.
18. Scrap book of printed forms.
19. Scrap book for press clippings.

IV. Enforcement of Compulsory Education and Census Enumeration.
1. Census Enumeration
    (a) Enumerating Sheet
    (b) Permanent School Census Card
    (c) Temporary Reports of Enrollment.
2. Employment Certificates
    (a) Application of Parent
    (b) Promise of Enrollment
    (c) Record of school progress
    (d) Certificate of physical fitness
    (e) Proof of Age
    (f) Employment certificate
    (g) Receipt from employer
    (h) Monthly Report from Employer.

B. Records and reports involved in instructional service.

I. Principal's Records and Reports
1. Registration card.
2. Pupil's Record for Principal's Office.
3. Daily attendance report.
4. Monthly attendance report to the chief executive.
5. Monthly attendance report to the chief executive.
6. Promotion and failure report from each teacher.
7. Teachers' programs.
8. Special communications.
9. Requisitions from Teachers.
10. Record book of scientific studies.
11. Scrap book for Chief Executive's Bulletins, etc.
12. Scrap book for programs, etc.

II. Teacher's Records and Reports.
1. Register of Attendance and Scholarship.
2. Amount of work covered in given time.
3. Pupil's Report Card.
4. Record of Results of Standard Tests and Recommendations made.

III. Record of Textbooks.
1. Title, publisher,
2. Distribution.
3. Titles and numbers of books as actually distributed to buildings and classrooms.

IV. Supplies Used in Supervision and Instruction.
1. Stock-book.
2. Description of each supply.

C. Records of Operation of Plant.

I. Janitor's Records.
1. Coal Report.

2. Report to Principal concerning operation of plant.
3. Receipt of services.
4. Temperature report.
5. Meter reading report.
6. Janitor's annual report.

D. Records and Reports Involved in Maintenance of Plant.
   I. Repair of buildings and upkeep of ground.
   II. Estimate sheets for repair.
   III. Bid forms for repair jobs.
   IV. Cost sheets including time and unit cost.
   V. Repair cost by buildings over number of years.
   VI. Repair and replacement of equipment.

E. Fixed Charges.
   I. Insurance.
   II. Pensions.

F. Records and Reports Involved in Debt Service.
   I. Bonds
      1. Serial.
      2. Straight.
      3. Sinking Fund.
         a. Investment Record.
         b. Interest Record.
      4. Summary of Bonds by Buildings.
   II. Short-time Loans—Outstanding Warrants.

G. Capital Outlay.
   I. Land.
      1. Deeds.
      2. Plot Record.
      3. Annual Statement.
      4. Inventory.
   II. Buildings.
      1. Plans and specifications.
      2. Continuous inventory and evaluation.
   III. Equipment.
      1. Inventory.

H. Auxiliary Agencies and Sundry Activities.
   I. Library Records and Blanks.
      1. Order Card
      2. Accession Record.
      3. Charging System.
      4. Shelf list card.
      5. Card Catalog.
      6. Financial Report.
   II. Health Department Records and Reports.
      1. Basic Permanent Records.
         a. Pupil's accumulative health and physical record.
         b. Pupil's accumulative dental chart.
         c. Pupil's athletic and physical record.
         d. Special Pupil's Physical and Family history record.
         e. Teachers' physical and health record.
         f. Teachers' health certificate.
         g. Health director's annual report.

Note.—This outline is a modification of an outline used at Teachers' College in the classes in administration when the question of school records was considered.

The large divisions described in this outline are:

a. Records and reports involved in the general control of the school.
b. Records and reports involved in the instructional service.
c. Records of the operation of the plant.
d. Records and reports involved in the maintenance of the plant.
e. Fixed charges.
f. Records of capital outlay.
g. Records of auxiliary agencies.

All schools, township and community high schools, special charter schools and those operating under general school laws should use these divisions as guides for adoption of records. The details under each head should serve to act as check on the records in use.

While it is impossible to submit data on and have actual samples of all these records in the limited time which has been at the Committee's disposal, certain of the more important records are considered.

The chief executive officer of every school system, whether he be the city superintendent or the township or community high school principal, should keep, at any rate, an accurate financial record. Your Committee concurs in the recommendation of the National Education Association, the Bureau of Education, State and City Superintendents and expert school accountants that the financial forms published by C. F. Williams & Son, Albany, New York, are very satisfactory. This system consists of voucher and jacket, cashbook and ledger. The ledger sheets are too large to be reproduced herewith, hence only the headings for each of the different sheets and each of the different departments of expense follow:

TITLES OF PAGES

I. General Control.
II. Instructional Service.
III. Operation of Plant.
IV. Maintenance of Plant.
V. Fixed Charges—Debt Service.
VI. Capital Outlay.
VII. Auxiliary Agencies.

A. General Control.
- I. Date of Voucher.
  - 1. To whom made out.
  - 2. Voucher number.
- II. Code.
- III. Board of Education (Service of Regulation and Control).
  - 1. Business Administration.
    - a. School Elections.
  - 2. Board of Education and Secretarial Office.
    - a. Salaries
    - b. Supplies
    - c. Other Expenses of Business Control.
- IV. Superintendent of Schools.
  - 1. Service of Direction and Control.
  - 2. Educational Administration and Control.
    - a. Superintendent's Office.
      - (a) Salaries.
      - (b) Supplies.
      - (c) Other Expenses.

3. Enforcement of Compulsory Educational Laws and Census Enumeration.
   (a) Salaries.
4. Other Expenses of Administrational Control.

V. Total Expenses of General Control.

B. Instructional Service.

I. Date of Voucher.
   1. To whom and for what issued.
   2. Number of Voucher.

II. Code.

III. Supervision.
   1. Supervision of Grades and Subjects.
      a. Salaries.
      b. Other Expenses.
   2. Principal's Office.
      a. Salary of Principal.
      b. Salary of Clerk.
      c. Supplies.
      d. Other Expenses.
   3. Other Expenses of Supervision.

IV. Teaching.
   1. Salaries of Teachers.
   2. Textbooks.
   3. Other Supplies Used in Instruction.
   4. Commencement Exercises and Exhibits.
   5. Other Expenses of Instruction.

V. Total Expenses of Instructional Service.

C. Operation of Plant.

I. Date of Voucher.
   1. To Whom or for What Issued.
   2. Number of Voucher.

II. Code.

III. Buildings, Offices and Grounds.
   1. Wages of Janitors and Other Employees.
   2. Fuel.
   3. Water.
   4. Light and Power.
   5. Janitor's Supplies.
   6. General Care of Grounds.
   7. Services Other than Personal.
   8. Other Expenses of Operation.

IV. Total Expenses of Operation of Plant.

D. Maintenance of Plant.

I. Date of Voucher.
   1. To whom or for What Issued.
   2. Number of Voucher.

II. Code.
   1. Buildings, Offices and Grounds.
      a. Upkeep of Grounds, Repairs.
      b. Repairs of Buildings.
      c. Repair and Replacement of Heating, Lighting, and Plumbing Equipment.

d. Repair and Replacement of Apparatus Used in Instruction.
e. Repair and Replacement of Furniture.
f. Repair and Replacement of Other Equipment.
g. Other Expenses of Maintenance of Plant.

E. Fixed Service. Debt Service.
I. Date of Voucher.
1. To Whom and for What Issued.
2. Number of Voucher.

II. Code.

III. Fixed Charges.
1. Pensions.
2. Rents.
3. Insurance.
4. Taxes.
5. Contributions and Contingencies.
6. Total Fixed Charges.

IV. Debt Service.
1. Payment of Bonds.
a. Payment Direct.
b. Payment to Sinking Fund.
2. Redemption of Short Term Bonds.
3. Payment of Interest.
a. Interest on Bonds.
b. Interest on Short Term Loans.
4. Refunds for Taxes and Tuition.
5. Total Expenses of Debt Service.

V. Total of Fixed Service and Debt Service.

F. Capital Outlay.
1. Date of Voucher.
a. To Whom or for What Issued.
b. Voucher Number.

2. Code.

3. Capital Outlay.
a. Equipment of New Buildings and Grounds.
1. Land.
2. New Buildings.
3. Improvement of New Grounds.
4. Alterations of Old Buildings (Not Repairs).
5. Heating, Lighting, Plumbing and Electrical.
6. Furniture.
7. Instructional Apparatus.
8. Other Equipment.
b. Equipment of Old Buildings and Grounds.
1. Heating, Lighting, Plumbing and Electrical.
2. Furniture.
3. Instructional Apparatus.
4. Other Equipment.
c. Other Capital Outlay.
d. Total Expenses in Capital Outlay.

G. Auxiliary Agencies.
1. Date of Voucher.

2. Order.
    a. Number.
    b. Date.
3. To Whom Issued.
4. Warrant.
    a. Number.
    b. Date.
5. Total.
6. Distribution.
    a. General Control.
    b. Instructional Service.
    c. Proprietary Service.
        (a) Operation of Plant.
        (b) Maintenance of Plant.
        (c) Fixed Charges.
        (d) Debt Service.
        (e) Capital Outlay.
7. Auxiliary Sundry Activities.

The adoption and the accurate keeping of the financial record, such as the one just outlined, will serve to remedy the trial and error methods of financing our schools. Altogether too many school boards stop at the point of setting a tax rate on a given assessed valuation in order to produce a given amount of money. About all any interested person knows is that the money is levied and spent. In other words, there is no careful consideration of the school budget. City high school principals are unable to tell what portion of the levy for school purposes is spent on the high school. There is, moreover, little consideration of the proportion of expenditure relative to the high school and the grades with the result that in some communities the elementary schools suffer in order that the high school may be able to meet growing standards. No one knows from lack of adequate records what an economical high school is. [From data derived from some county superintendents, the High School Visitor and a few high school principals, certain data on expenditure in Illinois for 1920-21 were obtained but not of sufficient importance to warrant printing here.]

It was apparent from this study that a very small number of high schools are able to furnish accurate material on this subject. It seems desirable that every executive officer should be able to answer from financial records that are kept, what the per pupil expenditure is, what the expenditure per subject and study is, what the expenditure per curriculum is in terms of general control, instruction, operation, fixed charges, etc. so that accurate and meaningful comparisons may be made as between city high schools, township and community high schools and high schools under general law. Then school officers can present the financial status and the needs of this school to the public, no longer as matters of mere opinion.

The following record forms made and selected by the Committee are self-explanatory:

Name..... Parent or Guardian..... Address..... Tel.....
Surname—Given Name St. No. City

## PERMANENT HIGH SCHOOL RECORD

Date of birth..... Entered from..... Graduated..... 19..... Curriculum.....

| | | Algebra | Geometry | Trigonometry | Com. Arith. | English | Latin | German | French | Spanish | Greek | History | Civics | Economics | Busi. Law | Bookkeeping | Stenography | Typewriting | Coml. Geog. | Physical Geog. | Physics | Chemistry | Botany | Zoology | Physiology | Geology | Astronomy | Music | Drawing | Industrial Arts | " " | " " | House. Arts | " " | Agriculture | Phy. Educ. | Extra Activities | Left School | Returned |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| First Year | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Second Year | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Third Year | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Fourth Year | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Fifth Year | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Credits | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Required Subjects May be Printed in Bold-Faced Type.

## HIGH SCHOOL ENROLLMENT CARD

Fill in blanks in ink only. Write neatly. Be accurate

No. of Credits..... Assembly seat..... Locker No..... Date.....
Mo. Day Year

Name..... Home address..... Tel.....
No. St. City, County, R. F. D.

If rooming away from home give room address..... Tel.....
No. St., City, County, R. F. D.

Date of Birth..... Place of birth.....
Mo. Day Year City County State

Name of Father or Guardian..... Name of Mother.....
Surname, Given Surname, Given

Occupation of Father or Guardian..... Business Address of..... Tel.....
No. St. City, State

School last attended.....
Name of school Grade Class Name of city or town No. of Dist. R. F. D.

Do you expect to graduate?..... In what year?.....

Are you preparing for college?..... Which one?..... For business?..... For teaching?.....

For the professions?..... Law..... Medicine..... Dentistry..... Ministry.....

Date of leaving school..... Cause..... Date of reentering.....

Church membership or affiliation.....

Date of Graduation..... Month..... Day..... Year.....

## HIGH SCHOOL DAILY PROGRAM CARD

Name..... Address..... Tel..... Date.....
Surname Given Name Month Day Year

Credits..... Assembly Seat..... Locker No.....

| | | 1 | 2 | 3 | 4 | A5B | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|
| M | Sub. | | | | | | | | | |
| | Room | | | | | | | | | |
| | Teacher | | | | | | | | | |
| T | Sub. | | | | | | | | | |
| | Room | | | | | | | | | |
| | Teacher | | | | | | | | | |
| W | Sub. | | | | | | | | | |
| | Room | | | | | | | | | |
| | Teacher | | | | | | | | | |
| T | Sub. | | | | | | | | | |
| | Room | | | | | | | | | |
| | Teacher | | | | | | | | | |
| F | Sub. | | | | | | | | | |
| | Room | | | | | | | | | |
| | Teacher | | | | | | | | | |

Credits.....

## ATTENDANCE RECORD

Semester opens.....
Mo. Day Year

Assembly seat.....Locker No.....

Name.....Address.....Telephone.....
Surname Given name

| Weeks | MONDAY | | | | | | | | TUESDAY | | | | | | | | WEDNESDAY | | | | | | | | THURSDAY | | | | | | | | FRIDAY | | | | | | | | TOTAL | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Hours | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | A | T | |
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Total A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Total T | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

*The Recommendations of this Committee* are, first, that a committee be appointed by this body to continue the study of records and reports, not only to give its findings to this association but to serve as an agency for supplying advice to high schools, when requested, relative to suitable record forms.

Second, that school boards and city superintendents be urgently requested to furnish the high school principal with clerk or clerks, to keep adequate records of high school pupils.

Third, that each high school principal of Illinois make a survey of the records in his own school system, using the seven principles and subheads as stated in the body of this report.

Fourth, that the chief executive officers, city superintendents or community and high school principals advise their respective boards of education to adopt and install the financial records as published by C. F. Williams and Son, Albany, New York.

Fifth, that records be adopted only in terms of the adequacy of function.

## Discussion of Report on High School Records

### Principal W. C. Baer, Danville

I wish to take this opportunity as a member of the committee on high school record forms to express my personal thanks and appreciation with the other members of the committee to Dr. Paul E. Belting, the chairman, for his efforts in collecting, preparing and presenting the material for the splendid report which we have just heard.

In the meetings of the committee there were certain outstanding principles which guided the members in their deliberations. We were aware of the fact that it would be very presumptious for us to assume to dictate the kind of record forms that each school should use, especially where there is already established a good working system. The committee merely offers this material for the consideration and adoption in schools which have been handicapped because of a lack of a good system of bookkeeping and record forms. It is not expected that each school will adopt all of the record forms presented in this report. No doubt each school will find something that can improve the present plan of records. If so, the committee feels well repaid. The need for such help has been urgent for a long time. The suggestion that a permanent committee be appointed to serve or act as an agency or a clearing house for this most important part of the administrative organization of a school is well taken. By establishing such an agency if the head of any school wished to get some information about record forms he would immediately know where to write for such information and material.

A school which is organized on a business-like basis tends to render better and more efficient service to the community. The high school which has a system of bookkeeping such as published by C. F. Williams mentioned in the report of Dr. Belting, and a good system of record forms has a big advantage over the high school which has a hit and miss plan of bookkeeping and record forms. If for no other fact than that in a very short time accurate data can be secured for reports of all descriptions the system is well worth while. The formal operation of the school is placed upon a scientific and intelligent basis by the use of this system. The high school, whether small or large, realizes the importance of this fact. A principal who is taking charge of a small or large school for the first time is greatly handicapped if he does not find from the records the information he desires to begin his duties as an administrator. How much better it is to go into a position with all of the necessary data available which has been based upon the work in the preceding years.

The committee realizes that in a majority of the schools there is not sufficient clerical help furnished to permit the use of the many records which a

principal might feel inclined to adopt for his school. We are all agreed that one of the chief duties of the principal is to supervise class room instruction. However, in the working out of this duty the majority of principals find the greater part of their time being taken up with office details and routine work. This work, in most cases, could be done by a clerk at a very much lower cost to the community. Can you imagine any corporation permitting their executives to do the routine clerical work of the organization? Yet this condition exists in the majority of the schools of the state. We do not urge this that the principal may have less to do but that he may give his time as a trained supervisor to the needs of class room instruction. This association should conduct a campaign of education throughout the entire state emphasizing the need for a change in this condition.

A few years ago Supt. L. W. Smith of the Joliet Township High School submitted a report to the National Association of Principals of Secondary Schools showing the necessity of a uniform certificating plan for the transfer of pupils from one high school to another and from high schools to colleges. We were glad to receive last spring copies of this uniform blank adopted by the North Central Association of Colleges and Secondary Schools which had the approval of colleges and high schools of that particular association. There are still a great number of schools sending credits on ordinary letter sheets stating only the course and grade of the pupil transferred. In checking over our transfer credit sheets recently I found that out of the total number of forty-four transfers seventeen failed to give the necessary information needed for an intelligent classification of the pupils. The most common practice is to omit the number of weeks a course was given, the year that the particular course was taken and the number and length of recitations and laboratory periods. It has been necessary in these cases in order to be certain that no injustice would be done to pupil or school to request a second statement including all of the items which were lacking in the first report. I am sure that Principal H. V. Church of Cicero Township High School will be glad to send copies to any one interested in using this new blank of certification of credits.

Every principal or superintendent has some particular form of records that he helped originate out of his experience and which he thinks are quite essential to the school system of which he is in charge. I have been asked to impose upon you a form of this type. I am sure that as principals of high schools we have experienced the difficulty in acquainting our new teachers with the nature of the work which has been done in the preceding semesters. Some of us have moved from one high school to another and have longed for some information that would give us an adequate and correct statement of the work of the teachers. It was because of these experiences that the following form was devised, which is as follows: This is a report of work done in Blank High School which was distributed a few minutes ago. On the top of the sheet is a place for the date. The following items are listed on the report:

1. Name of teacher.
2. Semester dates.
3. Name of course.
4. Number in class. If two sections designate.
5. Text books (full titles.)
6. Number of pages covered. (Note as follows: pps. 131-187 inclusive, subjects or parts of subjects omitted. Be definite.)
7. Description of work. (Be definite.)
8. Supplementary reading?
9. Main emphasis?
10. Tests. Give plan showing when and number given.
    a. Oral.
    b. Written.

11. Recitation plan. (Explain fully.)
12. Cost of books and material? (Be definite.)
13. Remarks and suggestions.

Each teacher is required to make this report at the close of the semester. This report enables the supervisor to check over in a concrete and definite way the work of the teacher. On the other hand it assists the teacher in planning her work in a much more intelligent way. Under item 13 "Remarks and Suggestions" the teacher is permitted to offer suggestions as a result of her experience which will improve the work of the course. In our high schools where the teaching force changes so frequently the new teacher is especially thankful to get this information from the report which will direct her in doing the work better.

In conclusion, I hope that

(1) a permanent committee or agency be created on high school forms and records.

(2) that a campaign of education be conducted by this association emphasizing the need and importance of adequate clerical help in our schools.

## 2. AGRICULTURAL SECTION

MINUTES—MORNING SESSION

The Agricultural Section of the Conference was called to order at 9:00 A. M., Friday by the Chairman, Gilbert Willey of Gurnee. The Section met in Room 128 Agricultural Building with ninety agricultural teachers in attendance.

The following program was given:

High School Teaching—Prof. E. H. Cameron, Univ. of Ill.

The Vocational Teacher and His Twelve Months Plan—C. S. Anderson, Rockford.

AFTERNOON SESSION

A Retrospect in Agricultural Education—Dean Eugene Davenport, Univ. of Ill.

Problems of Teaching Agriculture in Non-Vocational High Schools —L. A. Moore, Charleston, Normal.

The following members constitute the Executive Committee for the ensuing year:

I. E. Wilson, Pekin—Chairman.....1924
A. W. Newlin, Casey.....1922
Carl Colvin, Springfield.....1923
D. L. Reid, Urbana.....1922

The papers read before the section are given below.

D. L. Reid, *Secretary.*

## Methods of Study

**Professor E. H. Cameron, University**

The story is told of a woman who came to a city school superintendent with a somewhat peculiar request. She was a widow with three children and had to get up very early to prepare herself for work, and her children for school. Returning home at 6 o'clock at night she got ready the evening meal and afterwards washed the dishes and tidied the house. She then thought it necessary to sit down with her children and assist them in studying the lessons, which, as she put it to the superintendent, "your teachers will hear them recite the following day." "If it is just the same to you," she continued, "I would like to have the teachers help the children to study during the day, and let me hear them say their lessons at night. It would be much easier for me."

This story raises the question of the teacher's function in an apt and emphatic manner. More and more we are coming to see that the teacher's most important duty is directing study rather than hearing lessons. While it is an important part of a teacher's work to test the pupil's knowledge, it is a relatively unimportant part, and one which it is safe to say, has been over-emphasized in most schools.

The primary pre-requisite in all study is a certain *attitude of intellectual curiosity* on the part of the student. At best the teacher's part consists merely in being the means of stimulating and directing the pupil's self-activity. But this does not mean that the teacher's part in regard to this matter is not important. The teacher is responsible for the creation of an enthusiasm for the work of the school in the case of pupils who would not otherwise have it. By proper direction of the student's emotional life the desire for knowledge may become a dominating factor in all his work, and without such an attitude, study activities will have to overcome an inertia that will be the source of constant strain. The first rule of study is, therefore, to create in the pupil motives for study and a desire to study.

In the second place study may be regarded from the standpoint of *reading*. A very large part of all the study of the school is directly dependent on the ability to read. But recent studies have shown that even high school students are frequently unable to read in any efficient fashion. The teacher must, therefore, assure himself that the student's difficulties in regard to study are not first of all due to the fact that he has never learned to read silently with any degree of efficiency which would enable him to cover his high school lessons in a reasonable amount of time. In the case of such students the first requirement is practice in increasing the rate of silent reading or learning to comprehend more clearly what is read or both.

In the next place, study is a process of *attention*. This very obvious relation of attention to study raises the problem of training the attention. Are there rules for the training of attention? If so what are they? We sometimes think of attention as if it were some kind of a force within us that can be turned off or on at "will." But as a matter of fact it will be found that the capacity to attend so far as it relates to study is always the result of training. It is useless to ask the pupil to attend if he has not learned the trick, and if he has not, he must be encouraged to persist until he gradually acquires the necessary capacity. It cannot be expected to appear full blown in the life of any individual. Beyond the persistent training of this capacity there are some rules which may be given to secure the most favorable conditions for attention. In many cases, for example, the difficulty is in getting started upon the study activity. If a student will force himself to act in any way closely related to the work at hand the task becomes easier from that moment. To start in and do something—begin to read, take notes, etc.,—is to have half won the battle. For the inertia having once been overcome the subsequent action is easier. One's energy having once been

directed in the right direction, it continues of its own accord to carry us along in its tide. Another important rule for the most economical learning is to place oneself in the physical environment which is most favorable to concentration of attention. The difficulty of obtaining such conditions in the typical home is one of the chief arguments in favor of some form of so-called supervised study.

Again, study is *memorizing*. This phase of study may easily be neglected, but if the result of our educational methods is ever going to escape from the stigma so often attached to it, namely lack of thoroughness, the pupil must learn to make the object of his story a permanent possession of his mind. It is perfectly proper and necessary to decry the evils of cramming and purely rote memory, but in our reaction against this form of memorizing we are in danger of neglecting an essential phase of the learning process.

Students come to me and say by way of excuse for poor work. "I have such a poor memory." They imply that they regard themselves, nevertheless, as well equipped for the intellectual life for they have the ability to think. But thinking cannot go on in a vacuum. One cannot think without a store of facts, ideas and principles, and the student whose thinking is not supported by a solid basis of facts builds without foundation and when the winds blow and beat upon his house it will fall.

I sometimes think that students are of two types in respect to this aspect of study. Some students grasp general conclusions, principles and laws, relatively easily but they are impatient of facts. Details bore them and so they refuse to go through the necessary labor of memorizing. On the other hand, there is the type of student who finds the mere memorizing of facts relatively easy but finds it difficult to arrive at general conclusions. Happy is the student who combines these capacities in proper proportions.

The experimental psychology of memory has given many useful insights into this phase of study, only a few of which I can allude to here, and these at no great length.

*Have confidence in your memory.* Memory is like a friend who can be counted on to give his assistance the more he is trusted. Having thoroughly learned a thing, the proper procedure is to dismiss it from consciousness and expect that it will reappear when the proper occasion arises. The more one relies on notes and references, the more is it necessary to do so. This is no place to enter into a discussion of the vexed question of whether the memory in general can be trained, but all psychologists agree that the more the memory is relied on and used, the more useful function it becomes.

*Attitude while learning.* Closely allied to what has just been said is the rule that in memorizing one should have the "will to remember." Experiment shows that material learned with the definite intention of using it, in some more or less definite way, on some more or less definite occasion, is much better retained than when it is learned without any reference to its possible future use. It is of great advantage, therefore, to the student, if he has in mind during his study what he intends to do with the material studied. To study in order to recite to the teacher the next day, or to pass an examination the next week, or even to use it on some future occasion, only vaguely foreseen, will bring better results than to study merely because one must but without any future reference.

*The principle of use.* Most school study is, unfortunately perhaps in terms of language. You men who teach agriculture have an unusual opportunity for providing that pupils who learn things should use their knowledge in more or less practical ways. To use one's ideas helps to fix them in the mind. He who always has a fund of stories to tell is the one who is continually telling them. Even when the use to which the ideas are put is the usual type of school work—the recitation, the examination, etc., this principle is of importance. The teacher should encourage the pupil to use his knowledge and should create situations which make it necessary to apply it in as practical a way as the conditions of the school make possible.

*The principle of recall.* Many pupils learn for themselves that it is advantageous for them to attempt to recall what is being studied before it has been completely mastered. Careful experiments have shown that this is a valid principle for memorizing. Not only does this method reveal those portions which need the most further attention, but the mere effort to recall is an aid in the further complete memorization of the subject.

*The principle of whole and part.* It is well understood by all that the better materials for study are understood the more easily are these materials memorized. Because of this it is usually a good plan to read an assignment over as a whole rather hastily before beginning detailed study on the assignment. In this way the general bearing of the details is more easily grouped and in the same degree made more intelligible to the student.

*Principle of distribution.* It is known from the results of experiment that when a student has a certain length of time to devote to the study of a certain lesson, it is better to distribute this time over two or more periods rather than to bunch the learning into a single period. Doubtless the optimal periods of distribution differ with different individuals and with different subjects. We do not know, for example, whether a course in algebra given every school day for a year is as efficient as one given every other day for a period of two years. Personally, I believe that the latter is the better procedure, but while I have some evidence that this is true from my own experience of high school teaching, I should not wish to state this conviction too strongly until it is put to the test of experiment.

*The principle of reflective thought.* Last but most important of all is the rule that study should consist in reflective thought. Most of the materials of study consist of series of more or less related problems—and their solutions. It is only when the student raises these problems for himself and actively incorporates the solution into the body of his own reflective thought, that his study habits can be said to have reached a truly efficient level. It is the student who is continually reacting to his books by raising questions, and thinking out the answers to these questions, who obtains knowledge that is useful, and at the same time makes his study easy.

## The Problems of the Teacher of Agriculture in Non-Vocational High Schools

### L. A. Moore, Teacher's College, Charleston, Ill.

In dealing with this subject, I have taken more latitude than many of you will think wise. I have tried to keep in mind a widespread, well organized system of agricultural education within the reach of every boy and girl on the farm. But, it seems to me that now, the greatest problems confronting agricultural leaders are not found in our class rooms. From my experience in extension work and as a farmer, I believe the social and economic elements of our rural life have been too greatly neglected. Surely the farmer does not care about increasing production now with much effort, but he does recognize a greater need. Agricultural leaders don't have to look long for problems. The problems of the farmer become the problems of the teacher of agriculture, through the teachers relation to the farming business.

If an engineer were asked to repair or to rebuild an old structure, he would first make a very careful study of its present condition and needs. With this knowledge, he would plan to strengthen and rebuild it. So with the teachers of agriculture and other people interested in rural affairs, they must know the present condition of the farm people, discern their needs and proceed sanely and tactfully to repair or rebuild our rural business and social life.

The isolation in farm life, while not so bad now as in the past, has had a very great effect upon the character of the farmer. He lives apart from other

activities and his contact with other classes of people is limited. He isn't helped much by his association with his neighbors because they are either in the same frame of mind or jealousy plays too important a part. He is his own boss and knows no discipline or supervision. He works with growing things, plants and animals, whose development is a great mystery to him. He doesn't have to meet the demands of the public and he is prone to undervalue the opinions of others. He is extremely individualistic, a characteristic developed in the pioneer days when the farmers settled far from towns and trading centers and were forced to live mostly by themselves. The family was supported almost entirely from the farm. It developed a self-sufficing nature which still exists to a great degree. But, now that agriculture has become so commercialized, it is necessary that the farmer throw off these hidebound customs and get a new view of the world.

Individualism and conservatism of the farmers has hindered their organization and has been drawing them more and more apart from the rest of our national life. Of course, we read in the daily papers now, that our organization officials have appeared before the Chicago Chamber of Commerce, about our legislative program and other activities, but does the farmer at home appreciate the significance of that recognition of his views and is he ready for some constructive work? Conditions and the attitude towards rural life are changing and more leaders in rural affairs are realizing the importance of developing a fuller and richer social life and the moulding of rural opinion. Herein, lies one of the very important problems for the teacher in relation to the community, the organization and use of its social forces. In some communities this has been very well done. Good entertainment courses, lectures and study clubs have been part of the program led by the teacher probably cooperating with farm advisor and club leader.

The greatest needs of our farm people today are education and organization. To many, education means a livelihood without work and organization a soft job and graft for the officers or an opportunity to show the clenched fist. Organization can never be accomplished without education, education cannot go very far without efficient organization, and neither will go very far if they ignore the social needs of the rural people; those things that after all make life worth living. A well known student of rural life has said "That the main single deficiency of the rural people was the lack of enough of the right kind of education." The great need of a knowledge of the underlying principles of production, distribution and marketing is very evident. The suspicion and envy which have hindered the advance of farmers must be allayed, and it can be done only by education. Educating the farmer should be done through the extension agencies of the United States Department of Agriculture and our state universities, but the teacher of agriculture can be of invaluable assistance in promoting the work of his community. There are several communities in this state in which I have found the teacher of agriculture the much needed leader. The leaders of our farm organizations recognize the need of education and are promoting it as much as they can. The Grange, the oldest farmer organization maintains a lecture hour in every local organization and has since its inception. It must be remembered however, that the attitude of these organizations is but the expression of the minds of the best farmers, and certainly not of the majority.

These community problems are of great importance, and the teacher of agriculture will be expected to give service along a great many different lines. But, being a teacher, he will come in very close contact with the sons and daughters of these farmers. Children, as we well know, are a great economic asset on the farm, but they are worth far more from the educational and social standpoints. Through them new ideas are carried to the adults at home and new interest is often stimulated in the parents. Every evening the boy or girl will relate what happened at school and what the teacher said about this or that. The teacher of agriculture, especially, must be careful to make himself understood and to give the youth correct ideas. The study of agriculture is too often considered a joke by the parents because they do not know enough about their business to

believe there is anything that can be learned about it from class room study, so we must be careful to keep the pupil's faith. The teacher must deal tactfully with this situation or his effectiveness will be greatly impaired. There are many parents who are just waiting for the chance to test out the new teacher as they are the county farm advisor. In these "hard times" the teacher must be very sympathetic but he must not be a pessimist. He must have faith that there is a better day coming for the farmer and teach the youth who are not yet affected greatly by disappointments, how to assist in bringing it about. New life can be put into farming only when the basic sciences are applied to production and the same attention paid to marketing and distribution of our products that the great industries have paid to theirs.

The subject of agriculture is so broad that as a science for elementary or secondary schools it is not organized or systematized as well as our older school subjects. The first aim, of course, is to teach the facts relating to the production of plants and animals. This knowledge must be gained from the recorded experiences of men who have discovered the facts. To supplement the facts thus learned, there must be laboratory work which demonstrates them, either in the school laboratory or by the home project. For the teacher in the non-vocational school this is usually a hard problem. The class schedule is not usually arranged so that much time can be given to laboratory work in the school and the teacher usually lacks the means of transportation to look after the home project. If hearty cooperation can be effected with the club leader the solution is not hard but if there is not a club leader he will have to arrange trips to nearby farms where the facts learned from the text may be clearly demonstrated. In club work the leader is equipped to look after the project work while the teacher may supplement the project with class room work, giving a more detailed study than is usually done in club work.

The teacher in a non-vocational school is not likely to live in the community all the year so it is wise to plan projects that begin in the Fall and are completed in the Spring. Garden work, I have often found to be a failure because the pupil was permitted by the parents to neglect it during the summer when there wasn't a teacher to supervise the work. The phase of agriculture to stress depends largely upon the community. In one community livestock should be stressed, in another soils in another dairying and so on. In a school offering but one year in agriculture the course must be general. No great vocational value is expected, but rather a stimulation of interest in agriculture, so that the pupil will want to go on with its study, and to make an acquaintance with good agricultural literature. The teacher in the non-vocational high school will be handicapped usually by the lack of equipment in the laboratory, but he may get along fairly well with cheap improvised apparatus and the class will usually be able to supply many of the materials such as grains, milk, etc. The short period is a great handicap and often the lack of cooperation on the part of the other teachers in the school, but if the teacher is effective in teaching the things that the farmers want or recognize the need of, these problems are easily solved. Make the best farmers in the community your friends and they will probably be able to help you. The lack of supervision by experienced teachers is another great handicap to the teacher in the non-vocational high school but is a strong feature of the Smith-Hughes plan. If the teacher of agriculture is to be successful, he must make the community his field of activity as well as the class room, thus bringing before the farmers the things which they need in a practical way. Most of them will appreciate the service and it will not hurt those who do not.

## A Retrospect in Agricultural Education

### Dean Eugene Davenport, University

My warmest congratulations are extended to the young men who are so fortunate as to be privileged to teach agriculture in the regularly organized high schools of the state.

It may be encouraging in the solution of difficult problems and helpful in getting over the hard spots if we stop a moment and review the tortuous road along which we have travelled in arriving at so happy a stage in our journey. It is perhaps the more necessary to take a historical survey of this phase of education because of the fact that people now engaged in the work can have little conception of the many partings of the way at any one of which the solution might have been different.

Because it is profitable that our teachers of this subject at this particular juncture should know its historical setting, and because the future of our citizenry is so thoroly involved in the educational developments of the last half century, I invite your attention to a brief retrospective view of our progress in agricultural education.

The first systematic attention given to agriculture since Roman days, so far as I am aware, was in England during the latter part of the eighteenth century when the British Islands first became convinced that it was necessary to give some special attention to the food supply. This impulse provided the very beginning not only of systematic breeding in England but of the development of a rational system of farming the land.

King George III, the so-called farmer king, was so deeply interested in these new problems of production that he paid more attention to their solution than he did to the antics of the belligerent colonies around Massachusetts Bay.

Not only was George Washington a great farmer but so were a good share of the early settlers of the new country, and as early as 1820 attempts were made to establish schools of agriculture in New England.

These were boys' schools but even their most enthusiastic supporters cannot claim any great success, and interest in them died down. Interest in farming, however, did not die.

Immediately following the War of Independence and all thru the early years of the nineteenth century, the great occupation of leading citizens here, as in England, was that of farming. Conventions were held. Fairs were arranged. Prolonged discussions of the art of agriculture were indulged in. Agricultural papers were established, and in the late 40's and early 50's, the idea of agricultural colleges gained a considerable foothold, both in the east and in what was then the west—that is to say, the region immediately beyond the Alleghenies. A number of these so-called agricultural colleges were established on paper, following the fashion of the time; that is to say, to be maintained by private endowment. It became quickly evident, however, that the equipment for the teaching of agriculture was something more than a blackboard and a textbook; and the enormous expense involved, together with the comparatively limited interest, quickly demonstrated the impracticability of industrial education on a private endowment plan. Accordingly all these colleges died a premature death or entered into a state of suspended animation, with the single exception of Michigan, which from the first was, by edict of the constitution, made a charge upon the treasury of the state; and in 1857 the Michigan Agricultural College was opened for class instruction—the first agricultural college in America.

By this time a widespread, if not universal, interest had developed not only for education in agriculture but for the industries generally, or as they were called in those days the mechanic arts; and by 1860 a bill passed Congress pro-

viding for a national system of industrial education by establishing in each state of the Union a land grant college devoted to these purposes. The bill was vetoed by President Buchanan but passed again and was approved by President Lincoln in the early days of the war, July, 1862.

Under the provisions of this Morrill Act there was to be established in every state of the Union at least one institution which should devote itself to the education of the artisans of the country, as distinct from the so-called governing class, though it was made clear in the act that this education should not exclude either scientific or classical studies.

It is an interesting phase not only in the development of agricultural education but of education in general that this new move was almost contemporaneous with the entrance of science into the field of education.

The Michigan Agricultural College was opened within a quarter of a century after some of the early discoveries in chemistry. It was opened the year before the publication of Darwin's "Origin of the Species." It was opened while the world yet believed in spontaneous generation and while education was synonymous with language and mathematics. In other words, science itself had gained no foothold in the educational field previous to attempts to establish education in agriculture. Indeed it would not be too much to say that agriculture instead of being mothered and nourished by science was really the patron saint under which science obtained a foothold.

So true is this that for twenty years or more after the opening of the Michigan Agricultural College, when we talked a great deal about "the new education," we meant not so much education in agriculture as education in science. It was here that chemistry, botany, and zoology obtained a stronger foothold than they were allowed to maintain in any of the universities of this country with the single exception of Harvard which was shaken almost to its foundation when Professor Eliot, a chemist, was elected to the Presidency.

It is only a confession of the facts to admit that the early attempts to teach agriculture were eminent failures, if we may coin such a phrase. What was taught was something of the sciences bearing upon agriculture, notably chemistry; but so far as agriculture itself was concerned, what was taught was the art of farming and not the science of agriculture.

This was the history of the first twenty-five years of the operation of the Morrill Act. After this quarter of a century of experience in attempting to teach the art instead of the principles which underlay the art, the proponents of the new education came to the conclusion that we should never succeed in teaching it until we had a body of scientific knowledge containing such a collection of facts as would enable us to deduce therefrom the principles with which the farmer must reckon, and it is not too much to say in this connection that the establishment of the agricultural experiment stations in 1887 was the greatest concerted move for inductive logic ever made.

From then on the attempts to teach agriculture were surprisingly successful. Not only that but the reaction of the public to this new field of education has been pronounced and continuous.

All this time not only science but agriculture was slowly but surely gaining its way in the general educational field. This federal legislation founding colleges of agriculture and mechanical arts was the leaven which has gradually brought into the whole field of education the conviction that every field of knowledge which confronts civilized people affords subject matter not only for teaching but for investigation. Now we have pretty well stopped talking about the differences between liberal and industrial education, and it is not too much to say that we shall soon arrive at a period in our development in which not only agriculture and engineering but all sorts of applied and unapplied forms of knowledge will stand together in equal importance in the eyes of the research man, the publicist, and most other classes of citizens.

So much as a hasty sketch of the progress of collegiate education. I come now to that phase which more directly concerns this body: namely, subcollegiate or secondary education.

It so happened that the early attempts to teach agriculture were unsuccessful, not only because of a lack of agricultural knowledge of such quality and amount as would serve the purposes of instruction but also because of the false assumption on the part of educators that before the student should be competent to study the subject of agriculture from the standpoint of applied science, he should first become acquainted with the sciences whose application he was later to learn. That is to say, the prospective agricultural student was put into chemistry, botany, and zoology before he was permitted to elect a course in farming, with the natural result that most of them deserted the field of agriculture for some field of science opening up a new world to their imagination. The conclusion was the assumption that farmers and farmers' sons would not support education of collegiate grade.

Thus and then was born the short course in universities, and the short course was everywhere successful not only from the standpoint of attendance but from the standpoint of satisfaction on the part of both the students themselves and the fathers who sent them.

Two or three states, building upon this success, established at one corner of the campus what they called an agricultural high school, designed to teach by the most direct methods possible and in the shortest conceivable time those applications of science to farming which had proved most directly useful. These high schools were patronized and they were successful from the first. This success had two effects. One was the assumption on the part of some that the advocates of agricultural education had overshot the mark in talking about collegiate courses, and what was really needed was high schools instead. Others, accepting this view and realizing the number that needed to be served, proposed the establishment of a system of agricultural high schools, putting one in each of the principal agricultural districts of the state, or possibly one for each county, particularly in the agricultural states.

Here was a proposition not only to virtually limit education in agriculture to the high school but to establish a system of agricultural high schools in the country alongside of and in competition with the high schools for the general education of the people.

This movement, as I regard it, was the most dangerous educational temptation to which this or any other country was ever exposed. It took the form several times of attempts to force through Congress provisions for a national system of separate agricultural high schools to be supported by federal appropriations and local contributions.

Some of us who had been long in the field fought this proposition by every available means and we fought it for years. While no state and no institution can claim credit for converting the world to a saner view, yet I am fairly satisfied that no state and no institution was more persistent in this fight than was our own. We took the position that what this country needed was not a system of agricultural high schools and another system of engineering high schools, but a single system of cosmopolitan high schools in which all the people should be educated together first of all in those fields of knowledge which common citizenship requires and second in those fields of specialized knowledge which lead most directly into the professions.

This raised a storm of protest against beginning the professional education at so early an age. Manifestly, it was argued, the student can have no rational views of his own capabilities or of the opportunities of the different professions.

Those of us on whom the burden of the proof was thrown insisted that every boy worth educating has views of his own early in life and that while no law

should compel him to stay with his first choice, yet the moment he decided even tentatively along what line his professional education should follow, he should be helped along this way in school. Educationally, morally, and socially speaking, the boy was better off with a definite plan, even if he should change it, than he was to stay in the schools with no plan until perhaps after he had graduated from college.

This discussion was on the last line of defence of the old proposition that there are no educated professions except law, medicine, and theology. With the collapse of that position, the road was open for what we may fairly call cosmopolitan education and it is only within the present century that the country has come to settle down to the notion that the ideal university conducts research and gives instruction in all subjects essential to a highly developed civilization, and that the high school, following the same theory, introduces its people to as many of these major lines of activity as is economically possible.

Not only that, but it is the high school rather than the university that distinguishes sharply between those phases of knowledge which are general and those others which are specific to the end that the student shall understand early in life, when he is studying a particular subject, whether he is studying it as a basis of knowledge as to how the world lives its life and does it business, or whether he is studying it to learn how to render back to society part of the debt he owes for having been born.

I congratulate you upon coming into this work after these hard pioneer battles have been fought, which seem almost impossible now because the solution seemed so very clear, and yet it was fifty years before we arrived at anything like what might be called a final solution of this greatest of all educational problems in a democracy.

When I say final, I do not mean that we have solved the details but I do mean that we have solved the general philosophy upon which our general education will rest and must rest in the development of a self-governing people.

## The Vocational Agriculture Teacher and His Twelve Month Plan

### C. S. Anderson, Rockford

Many important and drastic changes have been made in the methods of teaching Secondary Agriculture since its advent into the High School curriculum. To the passage of the Smith-Hughes Act, which became effective July 1, 1917, we trace the most important of these changes. Prior to this date, a few isolated schools were making an attempt at vocational agricultural instruction, but it remained for the Smith-Hughes Act of Congress to centralize, to standardize, to develop interest and leadership, and to represent the guiding light of agriculture in the secondary schools of the entire nation. Those of us who have taught the pre-Smith-Hughes agriculture, the non-vocational agriculture, will realize most clearly this significance.

So we find ourselves a new group among teachers, open to criticism, unproven in the minds of many, probationers, so to speak, among the school masters and educators of the country.

A great deal has been said about the vocational teacher as an *organizer*, an *administrator*, a *manager*, a *teacher*, and as a *community leader*. We cannot discuss his "Twelve Month Plan" without briefly pausing to consider these cardinal virtues. Their possession, when made use of shrewdly and tactfully, will do wonders in weaving the agriculture teaching into the school work and into the community.

*As an organizer,* the vocational agriculture teacher is called upon to virtually "blaze his own trail," for the organization of agriculture into the curricula of the high schools is only begun. While it is true that agriculture is filled with real, tangible and interesting problems, suited to a wide diversity of arrangement, the agriculture teacher should always keep in mind the purely academic subjects which his pupils must take. This is an excellent opportunity which he should not overlook, that of correlating his work with science, with botany, with zoology, with chemistry, with physics, with electricity, and with the trade sciences. In a few schools, vocational English and mathematics have proved successful, and in many cases agricultural chemistry and physics are proving very successful.

Should we, as a group of vocational teachers, not encourage the agriculture students to elect more of the related sciences? An obstinate distaste for a subject must be recognized, but too frequently we find a subject unpopular due to the reaction of the mob spirit, which may permeate the personnel of our classes. A few students, possessed of qualities of leadership, voice their dislike for botany, and very shortly no one likes botany. By encouraging interest in other subjects, enthusiasm will be stimulated where it is lacking; a broader-minded, more liberally educated boy will result; and the vocational agriculture teacher will develop, in the other departments of the school, that spirit of cooperation which is so often entirely lacking.

In the organization of our courses, we too often forget the actual agricultural operations of our localities, and find ourselves following a procedure that is very much different and inapplicable. No universal study plan can be inaugurated. Originality of each individual teacher plays an important part. The teacher of geometry can use his plan and course organization with equal degree of success in Maine as in California, but it is not so with agriculture. The agriculture teacher must see to it that his courses provide such a knowledge of scientific and practical processes, and such a skill in their application, as will enable the student to obtain both profit and pleasure from the occupation of farming. Those teachers who have been raised in the section, or in a similar section, to the one in which they are teaching, will find curriculum and course organization the least difficult.

Just as he finds organizing ability an essential, so the vocational agriculture teacher finds that he must be a *manager,* frequently an *administrator,* and above all, a *teacher.*

A great educator has said "*The lack of teaching ability is harmful. The lack of governing ability is disastrous. More teachers fail from this lack than from all others.*" Our supervisors tell us that we, as a group of vocational agriculture teachers, are in no sense the exception, and no doubt this educator would say it more emphatically about us than about teachers as a large group, because we have very little excuse to offer.

If we make proper use of our opportunities, governing our classes ought to be the least of our troubles. Our subject being elective, we seldom find the disinterested pupil, taking agriculture because someone has said that he must. The uninterested pupil, in whom a spirit of pride or accomplishment cannot be instilled, is a demoralizing influence upon the entire class and a problem in class management. Our subject matter is so concrete that the student's interest is naturally attracted and easily held. Through the home project we come in close contact with the parents, and in this way we should secure their support and cooperation.

*As teachers,* one of our first problems is our relationship to our co-workers—our relationship to the teacher of History, the teacher of Mathematics, and of the other curriculum studies. Our vital contact with the community, our apparent freedom of action, and frequently, our greater compensation, should not be allowed to cause their feelings to degenerate to jealously.

In developing his "Twelve Month Plan," the vocational agriculture teacher finds class and project work both forming a part. Under class work he will in-

clude text, laboratory and field studies, demonstrations and supervised study. It is difficult to know just how to apportion this work. Many of the most successful teachers have followed widely different plans. The resources of the school and community, and the farming practices will be a useful guide.

Teachers are of the opinion that *the real makes, to most minds, a more valuable, as well as a more tangible and interesting problem for solution, than does the fictional or the unreal.* If this is true, our class work should include a liberal amount of laboratory, field, and demonstration work.

When possible, *laboratory* exercises should be of such a nature as will permit the entire class to participate—exercises that have a definite bearing on the community's agriculture. Frequently apparatus may be constructed by the students or teacher.

Since there is such a great variation in the farm practices, and since seasonal sequence varies with localities, it is not possible to follow a laboratory manual. Consequently, many of the exercises conducted will be original with the teacher. It stands to reason that no author can write a manual general enough in its content to be widely used, and yet specific enough to fill the needs of any particular section. The manuals available make excellent references, but the loose leaf note book into which hectographed or mimeographed forms can be inserted, seems to receive most favor. Frequently the duplication work can be done in the department.

Perhaps more teachers experience difficulty in conducting successful *field trips* than in any other part of the class work. The difficulty is largely one of discipline. Class room discipline cannot be forgotten on the field trip. Allow freedom of thought and expression, but demand absolute attention to the problems under observation. The more field trips the better; they are a vital part of the class work. The practical application made in the field will do more than days of class room discussion. It might be well to devote much of the time during the fall and spring to field work, and during the winter when outside study is not so possible, turn attention to laboratory exercises. A great deal is lost of that which is gained from field trips, if they are not followed up with written descriptions, questions, and class discussions.

Occasionally *demonstrations* before the class may be used as the method of instruction, but the actual participation in the work adds materially to the effectiveness of the teaching. Demonstrations may be made by individual pupils, unless the apparatus or the teaching involved is too intricate for a student to master, without first having seen the instructor perform the demonstration.

*Text books* as references are indispensable, but the old "page to page" assignments belong to the old school and cannot be used in vocational teaching. The agriculture teacher will find a good collection of recent books, to which he can send students for reference and collateral reading, a great asset in teaching his subject. He must, however, be posted himself on the gist of the subject matter he assigns. The library for agricultural books, farm papers, magazines and bulletins is best located in the agriculture room. We should encourage oral reading. Too often farm boys are poor readers.

*Supervised study,* as a duty of vocational agriculture teachers, is handled in many different ways. It is not enough for teachers to tell pupils how to study. They must be taught how by careful supervision. During this hour, which may occur two or three periods per week, the student prepares text assignments, makes reference readings, writes up experiments and field trips or any other agricultural assignment. If there is still more time, he may be permitted to prepare other subjects, but, in general, enough agriculture work should be assigned so that his entire time is taken up by its preparation. Comfortable desks in a light, well equipped room are essentials for supervised study. If the agriculture library is in the study room, or adjacent to it, it can be made use of during the supervised study hour.

*Seasonal sequence* is one of the pets of the vocational agriculture teacher. It aids him materially in presenting subject matter. If the pupils have been doing, or are about to perform, the practice that is being taken up in class, they have an excellent opportunity to apply their training. In some courses, seasonal sequence is more easily followed than in others. In Agronomy, it can be conformed to closely, while in Animal Husbandry it seems to disorganize rather than aid in the organization of the course.

*The Curriculum Calendars* prepared by Professor Nolan will be found to be an excellent guide in determining the seasonal sequence of farm practice, projects, class and laboratory exercises.

There is more diversity of opinion and less uniformity of effort in connection with the *project* than in any other part of our teaching. The following explanation of the project is condensed from the Report on Agriculture of the N. E. A. Commission on Reorganization of Secondary Education.

"A home project should include each of the following: (1) There must be a plan of work covering a season or other extended period of time; (2) it must be a part of the instruction in agriculture of the school; (3) there must be a problem more or less new to the pupil; (4) the parents and pupil should agree with the teacher upon the plan; (5) some competent person must supervise the home work; (6) detailed records of time, method, cost, and income must be correctly kept on suitable forms; (7) a written report based on the record must be submitted to the teacher.

"If a project is participated in by several students as a class or part of a class, it would be called a "group project." If the essential parts of the project are the work of one pupil, it would be considered an "individual project." According to the chief aim, projects may be classified as (a) productive projects in which the chief aim is to produce any agricultural product at a profit; (b) trial projects in which the chief aim is to test materials and methods in agricultural practice new to the student; (c) improvement projects in which the chief aim is to make improvement with hope of little immediate return; and (d) management projects in which the chief aim is to apply efficiently the general principles of farm management."

Frequently boys who have not had the project explained to them in the right light are apt to scoff at it as mere child play, and something which they, as high school boys, have graduated from, particularly so, if in the grades or rural schools, they have completed a year or so of projects in the Boys' and Girls' Club. The Boys' and Girls' Clubs are doing a wonderful piece of work, but we in the high school must make our boys feel that the vocational agriculture project is something bigger, something still more vital in the field of their chosen profession. We can stress the mercenary view point, but profits alone ought not to be emphasized without developing the idea of improvement.

Think over your projects and note how many are mere records of a farm practice, being done no differently than it has been done for a generation, or perhaps will be done for years to come. This kind of project is a drag, and a hard project to keep the boy enthusiastic about. The improvement idea adds a little of the unknown, yet is in no sense purely experimental. It is likely to have an enduring effect on the future of the farm practice.

Regular periodical visiting of farm projects has been tried, and it seems to be the opinion of many vocational teachers that this is not the best and most efficient way of helping the boy and of keeping in touch with the projects.

Discuss freely and frequently the progress and results of the home project in class. Encourage the boy to call on you when he has definite problems to be solved. Then go and see him and his project, take an active part in helping him to work out his problems, and you will show greater results than by the indiscriminate driving from place to place. This is especially true when a teacher is

handling a large and scattered group of boys. The boy who must be forced to attend his project will be the exception, and his type should be encouraged to elect other work more to their liking.

During the summer the projects can be seen more often and more regularly than during the school year. The class teaching comes first. Some project teaching can be done with the boys on their farms in the evening, and some on Saturday. For this work, the boy and his parents should be consulted before going to the farm. We must use discretion in imposing ourselves on the busy farmer and the boy whose time may be needed with other farm duties. There is lots to be gained by taking the entire class on a field trip to one individual's project.

We may find our plan complete without *extension activities.* However, there are certain extension duties which we cannot side-step, and which, if we are sincere in our interest in the country and country people, we will find enjoyment in doing. By encouraging these activities in the community, agricultural interest will be advanced. Among them are short courses; club work; lectures at Granges, Farm and Home Bureau, and other public gatherings; judging at fairs, and by cooperation with the local press.

A very vital part of our teaching is the sponsoring of an *agricultural club* composed of vocational students. The club, which is both social and educational, ought not be omitted. Through it comes friendship and acquaintance with both students and parents, and it is one of the most effective means to secure publicity and popularity for the department. Many teachers have found it the real power in development of the department, when it is entered into seriously by the boys, their parents, and the teachers themselves.

To hold office and to be on the club program develops leadership among these farm boys, and confident leadership is needed among rural people. To be a member or an officer in a live school organization does a lot to discourage self-depreciation, so commonly possessed by farm boys.

Socially, there is a great diversity of wholesome activities such as *father and son banquets, dances, parties, picnics,* and many others. Through the agricultural club may be developed the *baseball team,* the *basket ball team,* the agriculture *quartette, glee club,* or *orchestra.*

One of the greatest educational advantages in the club comes from the outside speakers brought into the meetings. Short, enthusiastic, to-the-point talks made by farmers, business and professional men, have a stimulating effect on the minds of the boys. The club may sponsor a lecture course. If near enough, the club as a group may attend the International Stock Show, The National Swine Show, The National Dairy Show, or similar points of educational value. Frequently there is interest in an agriculture club debating team, and the club may be used as the unit for selection of stock-judging teams, grain-judging teams, members to represent the department at demonstrations, contests, and student assemblies.

### 3. BIOLOGY SECTION

The Biology Section met at 9:05 A. M. in the Engineering lecture room, J. H. Whitten, of Chicago, presiding. After preliminary announcements the regular program was begun by George W. Hunter, Head of the Department of Biology, Knox College, Galesburg, Illinois. His subject was,—*The Possibilities of a Required Course in High School Biology.* Mr. Hunter believes that such a course properly taught provides very great possibilities for developing the ability to think and act in the rôle of good citizenship. His paper follows:

## The Possibilities of a Required Course in High School Biology

The Chairman makes it possible for me to be elastic and discuss a required high school course in elementary biology from two points of view: 1. The possibilities in such a course for the high school student. 2. The possibilities of giving such a course, from the standpoint of administration. In the discussion from both of these standpoints, I am glad to spend a few moments with you this morning; first, because I have great faith in what a high school boy or girl may obtain from a unified course in biology; and second, because I know, from the standpoint of administration, that such a course is possible.

Why should we give unified biology rather than botany or zoology in the high school? There are numerous reasons that might be given, but I think of none better than that of the rights of the child for whom the course is arranged. Children living in a rural or an urban community meet all the factors of life. Zoology is not separate from botany; hygiene is not separate from anatomy; classification in science does not appear. If interested in life, they wish to know something of the life that impinges upon them from without, for example, plants and animals with their exchange and interchange, their give and take in the daily activities. Life, in other words, should be interpreted as they see it in the field and the stream and in their homes. There never has been a time in the history of the race when biological facts have played so important a part as at present. Not only is the average citizen today interested in the big returns paid by sanitation or hygiene, or a knowledge of some of the elementary facts of medicine, but he is, moreover, fundamentally exercised over biological facts which go to make up his understanding of the microcosm of which he is a part. Sociology, especially the sociology of today, is built upon a fundamental understanding of biological factors entering into the life of society. A knowledge of social conditions is essentially biological.

The public money supports our high schools, therefore the public has a right to the kind of education which is adapted to produce good citizens, careful citizens, and healthy citizens. The public has come to demand practical value rather than a training of cultural value for a subject in the secondary school. Have we, as educators in a public school system, the right to deprive the public of subject matter that will be of vital importance to them? And should we as educators listen to the public's demands? The public school cannot be expected to educate for the economic advantage of one person or group as against another. It should, on the other hand, educate so that every future citizen should be well informed on subject matter vital to the community and to its citizens as a group.

But subject matter, information, in itself, is not the "sine qua non" of education today. If there was ever a time when we needed clear thinkers, it is at the present, and if a young person who is to become a future citizen cannot be taught through some of the subjects in the curriculum to think straight, then our public school system is certainly out of joint with the times. Witness the way our political leaders are able to sway the people through the daily newspapers bought up by political parties. Witness how the movies sway us emotionally and unnaturally into lanes of dangerous sex thinking. As one author has said, "It has struck sex o'clock," through the cheap magazines and movies of the present time. The Sunday papers and the cheap magazines make impossible statements in the name of science and it all goes. The boys and girls of today are not being taught to think. We see young people going out into life, becoming citizens and becoming actually unthinking beings, led and swayed by such things as advertisements, many of which are absolutely false and untrue.

There certainly is, then, a need in our secondary schools for subjects which will lead the child in the rudiments of straight thinking. Those of us who have read Dewey's "How We Think" recognize how this master has hit the nail on the head when he compares the mechanism of the thought process with that of the experiment. Someone has said an experiment is a form of asking a question

of nature. Nothing could be truer and it is experimental work in the laboratory or out of it,—project work, if you like, that we need in our schools of today. We do not, by experimental work, mean the laboratory work of the old fashioned type. The laboratory is not the place for busy work. It is not a place where a student is put to answering questions in which he has absolutely no concern or interest. It should be, as Dr. H. E. Walter has summed it up, a place for the development of ideas. He has summed up the real use of the experimental method in the following words:

"The laboratory method was such an emancipation from the old-time bookish slavery of pre-laboratory days that we may have been inclined to overdo it and to subject ourselves to a new slavery. It should never be forgotten that the laboratory is simply a means to an end; the dominant thing should be a consistent chain of ideas which the laboratory may serve to elucidate. When, however, the laboratory assumes the first place and the other phases of the course are made explanatory to it, we have taken, in my mind, an attitude fundamentally wrong. The question is not, what types may be taken up in the laboratory to be fitted into the general scheme afterwards, but what ideas are most worth while to be worked out and developed in the laboratory, or in some other way to be adopted with perfect freedom. Too often our course of study of an animal or plant takes the easiest rather than the most illuminating path. What is easier, for instance, particularly with large classes of restless pupils who apparently need to be kept in a condition of uniform occupation, than to kill a supply of animals, preferably as near alike as possible, and set the pupils to work drawing the dead remains? This method is usually supplemented by a series of questions concerning the remains which are sure to keep the pupils busy a while longer, perhaps until the bell strikes, and which usually are so planned as to anticipate any ideas that might naturally crop up in the pupil's mind during the drawing exercise.

"Such an abuse of the laboratory idea is all wrong and should be avoided. The ideal laboratory ought to be a retreat for rainy days; a substitute for out of doors; a clearing house of ideas brought in from the outside. Any course in biology which can be confined within four walls, even if these walls be of a modern, well-equipped laboratory, is in some measure a failure. Living things, to be appreciated and correctly interpreted, must be seen and studied in the open where they will be encountered throughout life. The place where an animal or plant is found is just as important a characteristic as its shape or function. Impossible field excursions with large classes within school hours, which only bring confusion to inflexible school programs, are not necessary to accomplish this result. Properly administered, it is without doubt one of our most efficient devices for developing biological ideas, but the laboratory should be kept in its proper relation to the other means at our disposal and never be allowed to degenerate either into a place for vacuous drawing exercises or a biological morgue where dead remains are viewed."

But, you say, botany or zoology, in themselves, will satisfy the requirements in teaching for straight thinking. Yes, this is so, but are we thinking of the child's interests in a case like this? I confess that I am a Herbartian and believe thoroughly in the doctrine of interest. The things in life which seem worth while to you and to me are the things which we strive to accomplish. Then what are children interested in? Moreover, children have a decided philosophy of life and a decided notion of the things in school life which pay. They are pragmatists and as pragmatists they demand a practical outcome from the courses pursued by them. Why do we see so many young people dropping out of the secondary school? The subjects of retardation, of over-age, are not subjects which interest the school master of today. The one thing he is primarily interested in is keeping the children in school. The Junior High School with its attempt to bridge over the gap between the elementary and secondary school is but one phase of the modern attempt to make our education so vital that children will not want to leave school and will not leave school unless the urge of economic necessity makes this

necessary. Herbert Spencer saw this years ago when he wrote his essay on those things which were most worth while in knowledge. He realized, as do the children of today, that self-preservation and health are the nation's greatest assets.

One might question, with rightness, why a former teacher of secondary school biology dares make a statement without proper material to advance his claims. At this particular time I cannot undertake to fully substantiate the claims I have already made but can say that were time allowed I could give extremely interesting data culled from twenty years experience in a large secondary school, data taken by the questionnaire method which indicates very clearly that children think with reference to the topics with which they come in contact in a given subject. This thinking is acute. They show a pragmatic philosophy in determining which topics are of more or less value and it is not a matter of the time of giving the topic nor relative closeness to the time of asking the questions that determines their answers. The answers in general show a greater interest in such topics as: the study of bacteria, the relation of foods to health, formation of habits, the various phases of physiology and hygiene, and such plant and animal topics as seem to deal more or less directly with their lives as human beings.

Biology, in other words, ought to stress applications which make for health and better communities, and for citizens within them. The relation between green plants and animals and the fact that oxygen is a waste product of the green plant should lead to the fact that parks are public breathing places, and should lead to a practical, as well as more aesthetic application of public parks and play grounds.

As to topics and material, the present day is full of vital ones. Why is it necessary for us to go afar for a clam or craw fish when we may find material in our own back yard? The mosquito or fly, with its deadly implication in action with disease, means far more to the average boy or girl than some form which does not come into their daily life, and there is just as much training and educational worth in a practical project which deals with mosquito extermination or with a knowledge of the habits of the fly, as there is in counting the somites of the grasshopper or naming the parts of one of the hind legs. Certainly, there is more of the spirit of modern education in the former than in the latter. There are hundreds of topics which lend themselves to worthwhile laboratory work which not only claim the interest of the student, but lead to thought along practical health lines, e. g., problems of ventilation, in relation to health; the effect of exercise on the heart rate; fatigue in relation to factory work; the balanced and unbalanced dietaries; the dangers of drugging and of adulteration; how to detect these adulterations; the method of droplet infection; some of the factors in oxidation; practical experiments in plant breeding; some of the simple facts that have been determined with reference to heredity, particularly in the working out of Mandel's Law in relation to feeble mindedness, alcoholism, and the like; and an elementary knowledge of the chief facts of sex as brought out in the life histories of plants and animals. To quote from a recent article by Benjamin Gruenberg in the Atlantic Monthly:

"The boy who learns to kill mosquitoes and to spare the lady-birds will probably not be the richer for it when he comes to make his will; but the community that learns to kill its mosquitoes and to spare its lady-birds will surely have an incalculable balance in its favor. The occasional individual who learns to avoid spitting is still exposed to infection from the spitting of others; but the community that first eliminates spitting and pencil licking will probably be the first to eliminate the white plague. If an understanding of the relations of bacteria and ventilation and diet and work to people's health will lead a generation of citizens to oppose with all their might the building of unsanitary dwellings, the operation of ill-ventilated factories, the marketing of unwholesome foods and quack remedies, and the overworking of men, women, and children, such an understanding is worth all it can cost. No other knowledge given to all the children of a nation will do so much for the general welfare as an appreciation of the relations between man and the organic factors of his environment."

As Gruenberg points out, biology also should teach conservation and conservation in its widest and truest sense. We, of this country, have been given a great heritage in our rich mineral resources, our fertile lands, our great forests, in our oil and coal and water power, and yet how few children of practical farmers know the true meaning of fertility of the soil. How few of us realize that forest destruction is hurting the farmer of today as well as the lumberman of yesterday. How few of us realize that in the high price of commodities which we fight today, there harks back a cry to the carelessness and waste and extravagance of a generation who but a few years ago cut and hewed and devastated some of the natural resources from the face of our life.

No one of us who has gone along the Illinois River can fail to realize the need of conservation of such a resource for future generations. Fish are extinct in certain parts of the river today. You say it was either fish, or human lives. True, human lives are more to be conserved than fisheries, but the pollution of the Illinois River can be measurably lessened if private individuals are made to take care of factory wastes. It is not the pollution of human wastes that causes the fish extinction but through the wastes which should be eliminated before they reach the drainage canal. All of these and more are topics which rightfully come under the jurisdiction of the live teacher of biology today.

And finally, of all topics, that of the conservation of human life is by far most important. Not only does that study of human physiology and hygiene lead to definite conclusions on the part of students, but some of the experimental records obtained in the study of the very new science of eugenics are worthy of our use in an elementary course. Some of the results of analytical studies of eugenics, to date, are fairly well established. A few simple Mandelian decisions have been discovered: in eye color, brown is dominant over other colors; curliness of hair appears to be dominant over straight hair; certain diseases such as abnormalities in the number of fingers and toes; eye defects such as cataract, certain types of congenital deafness, some abnormalities of skin and hair and nails appear to be simple dominance or recessives. Then, too, the study of many pedigrees make us believe that feeble mindedness of middle and higher class is inherited as a simple recessive. Epilepsy of the ordinary juvenile demonian type seems also to be due to a single developmental defect. While we do not understand as much as we might of the internal secretions of so-called endocrine glands, yet today a knowledge of hormones is almost imperative if one is to understand heredity and the work of the body as a machine. Certainly our improved elementary biology must have a trend toward that of self-preservation and conservation, and the applications that the modern science of medicine is making.

To sum up in the words of a committee report of which I have the honor to be the chairman, elementary biology in our schools ought to teach:—

1. The primary needs and functions of living things.
2. The relation of the factors of the environments to these primary needs.
3. The application of the laws of hygiene and sanitation to individuals within their environment.
4. The need of the conservation of natural resources.
5. The economic relations of plants and animals to man.
6. The pleasurable appreciation of nature gained by personal contact with living things.
7. A slight acquaintance with the work of some great biologists who have contributed to human welfare.
8. Last, and most important, the development of the scientific attitude of mind.

So much for our first proposition. What can we now say for the second:

It has become quite the habit for us to admit tacitly that science is losing ground in the secondary school. The science reports and the Report of the United

States Department of Education seem to indicate this, but a careful study of conditions within individual states where first hand observations have been made indicates rather the reverse of the statement. It has been my good fortune to be rather closely identified with suggestions for the making of high school courses in elementary science in two states—New York and Minnesota. In the former state, the reports of the regents of the University of the state of New York show that whereas physics, chemistry, botany and zoology, physiology, hygiene, and physical geography are decreasing in the amount given, biology on the other hand has not only been steadily increasing in the number of pupils taking courses, but the total number practically equals or exceeds all the other courses combined (read totals from report of Regents for 17-18 and later). In a report presented under the auspices of the University of Minnesota giving recommendations for courses in general science for that state, Dr. Trafton of the State Normal School, a member of the Committee appointed at their statistics campaign from the State Board of Education, showed that while Physics was going down hill in numbers taught, loss 22%, and chemistry was about stationary, loss 11%,—botany, loss 38%, physical geography, loss 47.5%, zoology, loss 52%—biology had increased in the last five years about 690% in numbers taught, while general science during the same period had increased over 858% and far outnumbered any other science in the secondary schools of the state. A similar condition exists in Massachusetts, Michigan, New Jersey and Wisconsin, and, I believe, in Washington and Oregon also. It is evident, then, that a year of general biology as against a half year or year course in botany or zoology, is consistently increasing in many parts of the United States.

This being the case, we might inquire about the executives and administrators in high schools interested in the matter. It seems fairly definite to any of us that a first year high school student should have at least four major lines of work: mother tongue, a foreign language, mathematics and science. As it is not possible for all children to pursue such a course, it is thought wise to introduce demarkation and allow elective work to a certain extent at least for those who cannot do passing work in foreign language or perhaps in mathematics. The social sciences here offer a line of least resistance.

Pedagogs are also pretty well agreed that four five-hour courses are worth relatively more than, for example, five four-hour courses. In many schools it has seemed wise in the first year to concentrate on four five-hour courses. Such was the case, for example, in the Dewitt Clinton High School, with which I was identified for twenty years. Some years ago when biology was not a required first year subject in the New York schools, we had double periods with a total number of seven periods (3 single and 2 double). When the suggested change came some years ago, those of us who had studied the first year student, voluntarily gave up the double period in biology in order that we might put the subject before a larger number of students. This, instead of working out badly, as might be supposed, worked out for the betterment of teaching.

Those of us who have studied the pre-adolescent realize that the beginner in science is not ready to take up without minute directions, the method of Agazzi. He has in the past, if taught to think at all, been taught by the method of deduction, and he is not ready for pure induction. Hitherto his school work has been, also, more or less dogmatic. The book has been his guide, the teacher's word still more, and he is often unwilling to believe his own senses. If he is turned loose with the pure inductive method he will sink, not swim. A combination method is needed.

But what has this to do with the problem of administration? The principal objection on the part of school administrators of schools to science is that of placing in the program the double period. The double period, as used with the elective systems in the later years of the high school, does not appear practical in the first or second year. If biology, then is to be treated as a first or second year introductory science under the old 8-4 plan or as a first year high school

study under the 6-3-3 plan or the 6-2-4 plan, why not make it a five-hour subject as has already been suggested without the double period. Under such conditions, program making is easy for the administrator and the indicated science can be taught by the laboratory developmental method. I will later endeavor to give evidence that this method of teaching brings better results than any other method tried, first, from the standpoint of the power to interpret the facts, and second, for the retention of facts, and I believe that experimental methods along such lines make for development of intelligence.

Each period under this method becomes a laboratory illustration of laboratory atmosphere. Material is placed in the hands of the pupils. They examine their specimens. The text is used as it should be used, as a reference book, for this is the way they will work in life. The work will go slowly at first. It will involve more requirement and preparation on the already overburdened teacher. It will tax his ingenuity. It may be fatiguing, but in the end it will be worth while both from the evidence of thought shown by pupils and by their interest. Teaching for straight thinking is by far the greatest reason for giving courses in science. Little of our specialized work carries through into daily life, but if we can teach the methodology of the thought process, we have done our duty as science teachers. My belief would be then, as a secondary school teacher, that we introduce our pupils to science through the vehicle of such material as deals most closely with their daily life and that this material be presented to beginners in science by the laboratory developmental method, a combination of inductive and deductive work and that the experimental method be used in the form of demonstrations and when possible for individual projects.

In further discussion of the general subject presented by Mr. Hunter, Miss Pearl T. Brown, Assistant Superintendent, Dundee, Illinois, presented a paper on the sub-topic, Biology, Social Hygiene and Citizenship, as follows:

## Biology, Social Hygiene and Citizenship

From the vast amount of ignorance concerning the laws of nature and the control of the human emotions, coupled with the world war conditions resulting in the great wave of juvenile delinquency, there comes to us as science teachers the crying need of a more definite, specific training for boys and girls of receptive age, to bring about changes which will effectively benefit our men and women of tomorrow.

That there is this great wave of juvenile delinquency there is not a doubt. A Detroit judge has said, "My court is a daily procession of beardless boys;" the Geneva state home for the most incorrigible of delinquent girls now numbers 450 girls between the ages of 12 and 20. These are only two instances out of thousands all over this country. We know that the greatest percent of crimes now committed is committed by youths between the ages of seventeen and twenty-three. This may be noted particularly in the large cities where juvenile courts are so crowded that additional judges must be appointed. It is said that all reformatories and detention homes are crowded with young boys and girls.

There are several channels of remedy we hope, but it is to us, teachers of science, comes the peculiar opportunity and privilege to inculcate in the young people of today principles of character to last for tomorrow.

In the quiet atmosphere of the science laboratory, we, science teachers, can bring about unconsciously the development in youth of certain ethical standards of moral conduct, and wholesome lasting habits of character; a higher standard of youthful ideals concerning home and parenthood; a greater respect for the development of life; healthier, and consequently, happier and more purposeful

interests concerning all aspects of human welfare; all of these are basic principles upon which good citizenship is founded.

I am convinced that certain phases of biology in their relation to human welfare are of sufficient importance in developing this training that the subject should be a required course in every high school curriculum. The present day methods of most schools in teaching Botany and Zoology, emphasizing Morphology and Classification, do not meet the requirements of our needs. We must use living organisms. We must awaken a vital interest which shall be the whys and wherefors—normal questions answered in a normal way. It must teach them first hand knowledge of the facts which underlie a wholesome character. It must teach them facts concerning their own anatomy, and this can be accomplished best by the correlation of facts concerning the plant and animal kingdom and their inter-relation with the human species. How few of our graduating students can tell you concerning the origin of life. We go around lamenting the ignorance among our high school boys and girls on the subjects of art, music, literature, drama, and little indeed do they know of these subjects, but, how few of them know even the most rudimentary hygienic laws of health, or have knowledge even of the organs of their own bodies. Even our teachers, who have not been fortunate enough to elect these subjects in their college courses, or taken it upon themselves to do so later, suffer from that same ignorance of the most fundamental and basic knowledge of their organic life. The situation has never been looked at squarely in the face until we have been forced by circumstantial evidence to juvenile wrongs.

It is admitted on all hands that in this training for character building one most important feature is the physiology and hygiene of sex, but it is my conviction that this part of the course should be taught where it logically belongs, not as sex hygiene has been taught interjected as separate work, but as part and parcel of a course in biology. In cell reproduction the course should trace the evolution of sex along with other functions such as the nervous and digestive systems in animals, and the vascular system in plants, without giving it undue prominence. In the discussion of cell reproduction and the processes of life development, there comes the opportunity to bring about that unconscious conquering of the imagination; a general understanding of parenthood, that will undoubtedly develop a right attitude toward the sex of life. This attitude manifests itself thru frankness of feeling, and discussions completely void of embarrassment.

Much care should be taken in the beginning of all work in Biology, to give the proper names to all parts and organs. Many of these can be learned to a greater advantage in the plant kingdom, then, when work with the animal, including the mammal, is taken up, these names fall naturally into their places without any great conspicuousness, and the scientific dignity attached to them throughout the discussion will prohibit a development of vulgar terminology.

We must make every possible application of the beauty of nature and art to human life. Some one has aptly said, "When men are close to nature they instinctively learn to obey her laws." That is true in the Biological Laboratory. Love for nature, for the plant and animal kingdoms, from the bilateral symmetry of some common form of insect to the development of the most beautiful flower of life—WOMANHOOD,—there is an appreciation and enjoyment of nature, a profound respect and reverence for processes of life development. It helps the boy to cultivate higher ideals for womanhood and to live a clean and purposeful life. Young men are constantly undergoing changes of organic conditions, and their education must be thorough enough and of the right nature to meet these conditions. They should be taught the same standard of morals as that set up for young women; they should be taught self control; and they should be taught not to expect excuses for allowing extremes of the age to overcome their self control. Girls will likewise receive their share of beneficial knowledge in a biological course; they will assume a more dignified and virtuous refinement realizing how important is their role in human welfare.

Because of the student's general knowledge of seed bearing plants and in view of the fact that it gives him a better receptive atmosphere perhaps the work of the spermatophyte is most desirable to begin with. In this general work on higher forms of plants the student should get a thorough understanding of how they live and reproduce their kind; the ecological conditions of plants; and the uses which plants are to man, especially for healthful foods. Seed germination, the food value of seeds, the development of the embryo, plant structure, stems, leaves, flowers, and fruits, also some brief work on classification, are topics for general study. Experiments relating to these subjects should be brought in at the same time.

Considering the thallophytes, the lowest forms of plant life, including slime molds, pleurococcus, spirogura, rock weed, bacteria, algea, rusts and mildews, such types should be used as bring out general characteristics of the branch and which best suit the teacher for convenience and familiarity. The study of bacteria placed early in the course of the plant kingdom offers a wide field for the study of diseases. Although time may prohibit extensive study of histology, slides which may be obtained from medical schools showing the results of diseased tissues, serve as excellent material. Here besides ordinary bacteria, contagious germ diseases including gonorrhea, and syphilis, the much dreaded disease said to have been brought from Haytii by Columbus' sailors in 1493, and other forms of venereal diseases may be studied to a great advantage, and information of intensive hygienic value derived. This step is important, for the welfare of the home depends largely on the absence of these diseases.

Bryophytes may be studied for general structure and for sexual and asexual reproduction. General work on the bryophyte, showing its structure and place in the development of the organized plant kingdom, rather than a minute detailed study is advisable, for much valuable time may be lost in tracing out the reproductive systems of mosses. While detailed work can be placed in these courses if offered as elective studies in the Junior or Senior year.

The alternation of generations of a fern; the development of the fibre-vascular system; and the highly organized process of starch making furnish the greatest value in the study of the pteridophyte. The law of biogenesis, the evolutionary history of the plant kingdom showing the development of every individual to be a repetition of the development of its kind, furnishes a desirable link later on in the development of animal life from common ancestral origin.

Briefly take up the animal kingdom, with a few types of protozoa; one or two to show cell reproduction, habitat and relation to diseases in man. These and a few simple, many celled animals can be easily produced in the laboratory. Among higher forms—sponges, coral, the earthworm, the crayfish, as many types of insects as are available, perhaps one or two vertebrates, such as the frog, rabbit, or guinea pig, should be thoroughly studied in the laboratory for structure and modes of living. In these forms it will be found easy to introduce sperm and egg reproduction in the animal. These forms, especially the vertebrates, help to correlate and unify the structure of animal systems to the human. The digestive, circulatory, respiratory, excretory, nervous and reproductive systems of human structure should be enlarged upon for the hygienic value of health.

During the course of the vertebrate, a brief development of the embryonic stages of chick or shark, followed by that of the dog or man, might be given with advantage, and this, following foundation courses of general reproductive systems, is met with a serious and respectful attitude.

With a coherence and unity of subject matter throughout, the course in general Biology should emphasize:

I The physiology and hygiene of sex reproduction.

II The evolution of plant and animal structure.

III The ecological value of plants, a determining feature in Agriculture.

IV The eradication of certain bacteria including harmful diseases to man.

V Metabolism of plants and animals.

VI Plants and animals useful and harmful to man.

VII Correct views of life processes resulting in better health and a better ethical character.

VIII The development of interests of life through environmental study of plants and animals.

IX The beauty of nature contributing to the enjoyment of right living.

X The value of hard scientific training in progress and development.

It is somewhat uncertain as to the exact place in the high school where general biology should be taught. In smaller schools where students are not familiar with departmental work, they are, in the ninth grade, adjusting themselves more or less to the high school regime, to the disadvantage of a thorough receptive attitude. Were this not the case, the course might well be placed in the first year of the high school curriculum. In the tenth grade where the age reaches more nearly middle adolescence, and where the nature of instruction and guidance should be indirect, they are without a doubt ready for this work.

Of the 29 million children in our country, 1,737,396 are in public high schools. They represent in a large measure, our men and women of tomorrow who are to set the ethical standard of moral conduct. We can through a systematic course of general biology, handled by well balanced teachers, in the early years of high school study, do a vast amount to inculcate fundamental ideas of right thinking and right living. Through such a course of study we can educate the boy and girl unconsciously to correct ideas of parenthood, birth, heredity, health and moral conduct, and they will translate that knowledge into their own conduct.

You may have a passive interest on the subject but that is not enough. For one, I am thoroughly aroused to the situation and the thing for science teachers to do is to act in support of anything that will achieve any degree of success in a measure so tremendous as to better the welfare of the future citizens of our country. Our nation of tomorrow is to be governed largely by the ethical standards of society set up by our children of today. The early teaching of nature is vast in its importance in encouraging and guiding purposeful interests in life and in upbuilding of citizenship through the attainment of the right attitude for home life and the worthy use of leisure hours.

Bryant said:

"To him who in the love of nature holds
Communion with her visible forms she speaks
A various language: for his gayer hours
She has a voice of gladness, and a smile
And eloquence of beauty; and she glides
Into his darker musings with a mild
And healing sympathy that steals away
Their sharpness ere he is aware."

Another paper discussing the general topic was presented by E. D. Walker of the Litchfield, Illinois, High School. Mr. Walker's paper dealt largely with the content of a course in Biology.

Miss Julia E. Hindle, Le Roy, Illinois, High School, continued the discussion and showed very conclusively the value of a required course in High School Biology. Her paper follows:

## The Possibilities of a Required Course in High School Biology

The entrance of the natural sciences into public secondary schools was in answer to the interest shown in the development of science during the first half of the nineteenth century. They were then taught simply as informational subjects and with little reference to their organization. Since that time, growth has been continuous but slow. Today, we are faced with the question—"Shall we make Biology a Required Subject?"

At the present time our colleges and universities are making so many requirements that it is hard to think of taking one more subject from the list of electives. But does not biology deserve a place on the list of requirements as well as algebra, history or language? I want to answer this question by speaking first of the intrinsic value of biology and second by suggesting some of the things that should be included in a course in Biology in order that their values may be realized.

I. Intrinsic Values.

Biological science is established and is justified by its cultural, practical, preparatory and social values.

The first or cultural value is the one that practically every pupil should realize. It gives a wide and sympathetic acquaintance with the plants and animals that surround him. A proper conception of ones environment is a possession which affords so much pleasure that we should all strive to acquire it. Biology is instrumental in teaching one to interpret and enjoy nature. A knowledge of other forms of life leads even the indifferent person to a contemplation of interests beyond his immediate personalities. Perhaps it is possible for a person to admire the beauty of a flower without any knowledge of biology, but how much more could he enjoy it, if he were personally acquainted with its name, its habits and place of living? It is only with a knowledge of these things that one looks at plants and animals with a sympathetic understanding and realizes that their problems of life are very similar to our own.

All of the complicated life activities of any plant or animal resolve themselves into two primal instincts: that of self preservation, and preservation and perpetuation of the race. This broader knowledge of life tends to restrain some of the baser impulses and pupils cease to annoy and destroy defenseless animals. When the pupil realizes something of the time and labor expended by a plant in reaching a stage of development where it attracts attention, he will stop the thoughtless destruction of it.

*The second or practical value.* Perhaps this value will not be realized equally by all pupils but especially in rural and semi-urban communities should this phase be emphasized. Every boy and girl should be interested in raising flowers and where possible, a garden. In order to do these things well, one must know something of the life history as well as the structure of insect pests in order to determine their method of control. Agriculture is being put on a scientific basis and biology should logically be the foundation for it.

Mankind makes direct use of many plants, animals and many organic processes in nature. It is essential that those who directly control these processes have an exact knowledge of them. Of course there are comparatively few of our boys and girls who will become farmers, foresters or physicians. Those who do choose these callings will not do so on the basis of the one year of biology which they can get in High School. Nevertheless there are many places at which the public welfare of the people touches the biology which every pupil can get.

It is of great importance to the farmer to know how to preserve the fertility of the soil and the relation of plant and animal life to fertility. But to

the extent that all citizens understand these things, the soil of the nation will be protected and preserved.

It is of utmost importance that the forester or lumberman understands the enemies and friends of the forest, and the condition for growth and renewal; but it is of greater importance that every citizen should understand the relation of the forest to the welfare of the nation. Such an understanding would make impossible the shameful waste that has been going on for years.

It is necessary for the fisherman to know something about the habits of his prey in order to know when and where to catch them; but it is far more important to the community that it should regulate the contamination of its streams and prevent the depletion of its fish supplies with a view to the resources of the morrow. Often times the wholesale fisher is concerned with quick profits but the community will need fish long after the individual is gone and so should protect itself.

It is possible to have sane game laws and to carry out their intent, only when the public both realizes their importance and sympathizes with their purpose.

The boy who learns in his biology course the reasons for killing flies and mosquitoes and for sparing ladybugs, may not feel that he is personally enriched by the information; but the community that learns the same lesson need not wait long to be repaid for its effort.

We have specialists to direct us but it is necessary that every citizen should be in hearty accord with the efforts of the officials in protecting and preserving the nation's wealth. The very best way to accomplish this is to teach all who may be reached the fundamental principles of plant and animal life and the relation of these to the life of man. This is Biology.

*The preparatory value of Biology.* Of course this affects a fewer number of people than any of the others. However, all neurological, psychological, and sociological phenomena are ultimately biological and can be approached effectively only through a study of biology. Dietetics presupposes a knowledge of physiology in order to explain the digestion and assimilation of food. Biology serves as a foundation upon which one can effectively approach the physical sciences in the last two years of high school.

The social value of biology is probably the most important for the whole group of pupils. It furnishes an appreciative acquaintance with a large, necessary and honorable industry, that of plant and animal raising.

Inglis says, "All individuals are biological organisms and should have some knowledge of biological facts, principles and processes, if health is to be considered." Another author says, "Zoology first teaches the pupil to be a good animal—and then a good useful citizen."

Under social values, we should mention the training given concerning the effect of environment on the individual, the relation of foods to the efficient work of the body, and the cause and prevention of disease.

Statistics show that eighty per cent of the school children of this country are suffering from some irregularity of eye, ear, nose, or throat and that about fifty thousand children are taken from school annually due to some physical debility or nervous condition. In view of these facts, it is high time we were spreading the knowledge of conditions that are conducive to health. It is in the hygienic phase of biology that we should stress four requisites of good health; proper food, sunlight, fresh air and temperate habits.

Advice counts for little in teaching young people about the choice of foods. Discussion and experiments in the laboratory give the pupil a lasting interest in the question of foods. Immediate results of this teaching may be seen in the more wisely chosen school lunches.

The facts about some of our more common communicable diseases are taught in their true biological relations. The life history of the organisms that carry diseases are studied enough to give information about the conditions favorable to their existence. Society is thus given a working base to operate against such diseases as tuberculosis, typhoid fever, malaria, and yellow fever.

As a last social value, I would mention the approach that biology gives to the complex social conditions of the day. The youth enters high school with rather an unsettled state of mind. If, just at this time, he is furnished with sound ideas of what a living organism is, of conditions favorable to its normal growth and its duty to the species, he will apply this knowledge to himself more and more. The many questions which arise in his mind will naturally answer themselves and the child will develop into a saner, healthier individual because of the knowledge.

The field of biology is so big that our chief trouble in outlining a course is one of emphasis and elimination of material. Many of us make the mistake of trying to present such a wide field that there is no proper emphasis. The question naturally arises, where shall we place emphasis? One way of answering this question is to refer to some statistics gathered from college entrance questions. One-third of the questions were based on structure; one-third on physiology, life history, and classification, and one-third on the relation of animals to human welfare. I think our high schools might well enrich their courses with more of external morphology, physiology, life history, and adaptations and still meet requirements.

Another mistake is in the method of presenting biology. Judd says, "The difficulty with most science texts and much of the laboratory work is that the effort of the teacher is devoted to giving the students results. Science in its completed form is a statement of solutions of problems. Science in the personal form in which the student needs to acquire it consists in the stating of problems in such a way as to give the student an appreciation of the reason why anyone should try to work at the subject. If one can get a student to see that the facts of life ought to arouse his curiosity, a very large part of the difficulty in science teaching disappears."

The next thing is the course. I shall simply enumerate some of the subjects that I consider of special importance. In the subject of botany—

First. A definite and comprehensive concept of the cell with its content and function as the unit of plant and animal life.

Second. A study of the complete plant showing exactly how it breathes, obtains water, how it grows, its relation to the animal world and to soil fertility.

Third. Reproduction in plants showing the special modifications of reproductive organs as illustrated by the flower, by corn, and by trees, etc.

Fourth. A comprehensive view of the field of lichens, mushrooms, and bacteria.

Fifth. An identification of a great many of the simple plants.

In the field of Zoology, I would include—

First. A study of the lower forms of animal life in order to form a basis for the evolutionary changes which lead to complex structures.

Second. Enough of the beneficial and injurious insects to insure practical values.

Third. Reproduction in some of the lower forms.

Fourth. As many of the higher forms as is necessary to insure a perfectly clear understanding of the workings of the respiratory, circulatory, excretory, digestive, and nervous systems.

Fifth. A correlation of these forms with the human body with stress on hygiene.

I believe if these subjects are well presented, that we will realize every value I have mentioned. Without a doubt, biology merits a permanent place on the list of requirements.

The discussion of this topic was concluded by Miss Helen A. Loomis, Chicago, Bowen High School. Miss Loomis presented her material in a very interesting way without manuscript. After explaining that a teacher should have a hobby to talk about, which should be given less emphasis in class than before an audience, she proceeded to demonstrate that ichthyology could be made a very interesting and practical part of a biology course. She used models of fish nets and other illustrative material to show how the subject of fishes, or any other biological subject, could be taught. Her discussion was of value in demonstrating methods of treating what some might consider a minor matter.

The next general topic for discussion was ably presented by H. D. Waggoner, Head of Department of Biology, State Teachers College, Macomb, Illinois.

## Elementary School Science as an Important Factor in Solving the Problem of High School Science

In this very brief paper there is no need of entering into a lengthy discussion of the science situation. By way of introduction, however, I may say that a rather careful review of the conditions involving science in the high school during the last twenty-five years, seems to indicate that rather sweeping changes must be brought about soon, or botany and zoology, as well as the physical sciences, are likely to practically disappear from secondary education.

The most important thing to be done doubtless is the improvement of the subject matter used in the high school courses. The predicament in which biology, for example, finds itself at present, is the direct outcome of the attempt to use materials in the high school classes that are suitable only for those making a broad study of the subject. Much of the subject matter even in our best texts today is certainly not adapted for the education of boys and girls who very soon must leave school and take their places in the community. We must absolutely get away from the idea that it is essential in high school courses to lay a broad foundation for future studies in science by covering the entire fields of the various branches. If science is to be saved for secondary education, we certainly must spend the limited amount of time allotted to this work upon those phases of the subjects that are directly vital to the welfare of the mass of the people.

The urgent demand for better subject matter on the part of those interested in secondary education is sound, and definitely points the way for advancement. The answer to this demand, however, it seems to me, is not in General Science, as it is generally advocated today, but rather it is to be found in the reorganization of the special sciences along the lines just pointed out.

Experience indicates another direction in which progress may be made that would do much to improve conditions in the high school science work. There should be some introductory materials offered somewhere. I am sure we all agree that work of a simple observational nature dealing with the phenomena of everyday life, and given in a way to enable the child to amass a fund of useful, first-hand experiences, is highly advantageous. I do not think, however, that this type of work should take the place of the more serious and far-reaching courses

of the high school. It is often claimed that the work in General Science is not intended as a substitute for the more advanced courses, but in the crowded condition of the curriculum, this is virtually what it means.

It appears then, that the improvement of science in the high school, aside from the preparation of the teacher, really resolves itself into two rather distinct problems: *first,*—the careful revision of the subject matter to be taught, and *second,*—the providing for introductory work that would form the basis for subsequent studies without tending to become an end in itself. The solution of the first problem rests with those who thoroughly understand present conditions in the high schools, and at the same time are qualified from the standpoint of scientific training to write the texts. The answer to the second problem may be found, in my opinion, in the reorganization of the elementary science work of the grades.

If introductory work of the nature referred to above can be done in the elementary school, the entire situation will be much clearer. The pupils then coming into the high school would be much better prepared to take up the specific sciences, and with texts thoroughly reorganized there should be nothing in the way of marked advancement.

A large proportion of the truly introductory work now advocated for the first year of science in the high school is none too difficult for the elementary grades. I have just looked over some of the best texts of this type and I find that this is certainly the case. It is true that there is some material too far advanced for grade work, but this would be better in the special sciences where it could be treated with some degree of thoroughness. In our own practice school at the Western Teachers College, we are giving such work in the grades, and, after more than four years trial, those most concerned are enthusiastic over the outcome.

The intermediate grades can take care of much of the observational study upon living things. That this is feasible, is perfectly evident to those who have followed the work of these pupils when properly directed. With us, children of the third grade work out, rather completely, such studies as the life history and behavior of the silk worm, through observations from day to day. Recently I questioned a girl of nine, (who was in the third grade last year), in regard to the silk worm, and I must say that I received more clear-cut, accurate information from her than I would expect from an average high school student who had studied this subject-matter in his zoology course the preceding year. The children of the other grades, up to the seventh, take up various other studies, and in this way our practice school pupils gradually gather a large fund of useful knowledge concerning living things, as well as considerable experience in working with the various forms of life. This surely is introductory material well worth while. After following this work, as it is presented in our grades, for over four years I can say without hesitation that I would not be willing under any consideration to have it pushed up into the high school. Such materials are well adapted for grade work and the general outcome is good.

The somewhat more difficult observations and the simple introductory experiments of the physical sciences may be taken care of successfully in the seventh and eighth grades. Our experience with this has been much the same as with the biological science work. A typical General Science course dealing largely with elementary physics and chemistry was given for several years in our high school but it did not prove satisfactory. Finally it was dropped out and much of the material was placed in the upper grades where the outcome has been good both from the standpoint of the elementary school as well as from that of the high school.

The child of the grades is at the age when observational science appeals to him most strongly. He is intensely interested in the living things and other natural objects about him and it is an easy matter to guide him so that he may

gain information and experience upon which to base future science work. Those interested in secondary science should consider with the greatest care the opportunity offered here for work that is of the highest value to subsequent studies in the high school.

I am well aware that what I am saying is far from being anything new in principle to those before me. For twenty years or more our teachers training schools have been advocating elementary science in the grades. It is there now in one form or another, appearing as nature study, agriculture, gardening, bird work, weather observations.

The co-ordination of this work, already well established in the elementary school, with the science courses of the high school, is a proposition most pertinent, and one that deserves careful consideration of science teachers. I have attended the meetings of this section for many years, and I do not recall a single discussion that centered about this most important problem. Instead of making an organized effort to improve the nature work already present in the grades and thus raise its standard until it would be adequate to serve as an introduction to high school science, we have attempted the much more difficult and uncertain task of placing this work in the first year of the already over-crowded curriculum of the high school.

Very often the elementary science of the grades is far from what it should be and sometimes it is almost worse than nothing. Pupils have been taught all manner of fallacies in the name of science. Facts have been distorted in the attempt to adapt the work to the minds of the children until scarcely the semblance of truth remained. Teachers, too often, have tried to present subject matter concerning which they, themselves, knew nothing. At other times, they have attempted to do the impossible by presenting a vast amount of material gleaned from the entire field covered by the various special sciences, with the obvious result, that but little or nothing is accomplished. These conditions have caused many interested in the welfare of science in the high school to look upon the efforts of the grades as of little value.

The conditions just pointed out, however, do not indicate that observational science work can not be done well in the grades. The teachers may not be as well prepared in this line as they should be, yet if they have proper help from those prepared to give aid, the problem is not more difficult than many others encountered in the field of elementary education. If the observational work is limited in scope, to cover a comparatively few general subjects in place of drawing upon the entire field of science for the materials, the preparation of the grade teacher for this work is not an unsurmountable obstacle in the way of progress. With us at the Western Teachers College, some of the best work is being done by inexperienced students who have had but little more than high school science. These young people, however, have very definite directions as to what to teach, and where to find helpful literature bearing upon the work. At present, the very general demand for better trained grade teachers, that is so apparent in many quarters, is a most hopeful outlook bearing upon this phase of the problem.

What elementary science in the grades sorely needs, in order to become more effective, is the earnest, whole-hearted cooperation of those doing science work in the high schools and higher institutions of learning. All of this work in the grades and high school should be as definitely correlated as is the language and the subsequent English work, or as the number work and the high school mathematics. This is not possible until all science teachers, whether in the elementary grades or in the high school, come to an understanding and work for a common goal. The grade teachers, many of whom have paid but little attention to science, cannot be expected to have the broad view necessary for the organization of the vast amount of material at hand. On the other hand, science teachers can scarcely hope to adapt the subject matter to the young

child. Obviously, those who are specially prepared in science should block out the general course and help by providing suitable materials. The details concerned with adapting the subject matter to the various grades should be left to those who are in direct contact with the children and understand child life.

The reorganization of elementary science in the grades is a most important phase of the general science situation in the high school and as such it must have the attention of those interested in solving this problem.

Miss Eva E. Huffman, Woodstock, Illinois, High School, gave the following paper which gives a very interesting, as well as enlightening, account of her experience in teaching elementary general science to eighth grade pupils. Her paper follows:

## The Elementary School as an Important Factor in Solving the Problem of High School Science

Near the close of the letter which I received from Dr. Whitten asking me to take part in the program of the Biology Section of the High School conference was this paragraph: "There are some who believe that a large part of the general science being offered in high school can and should be done in the elementary schools and that, until this fact be recognized, the question of high school science can not be settled satisfactorily. If you have or can collect any facts having a bearing on this subject, please don't neglect to present them at the conference." That paragraph caused me to select from the four topics which he sent the one that I have just mentioned. In the title as, given in the official program, the word, "Biology," has been substituted for the word, "Science." Nevertheless, I shall adhere to the subject as originally given—"The Elementary School as an Important Factor in Solving the Problem of High School Science."

I chose this subject on account of the experience which I have had since coming to Woodstock, Illinois. The superintendent asked me to teach general science in the eighth grade, as well as in the ninth, since he was thinking of eliminating general science from the high school curriculum.

I was not enthusiastic over the idea. I thought that general science was difficult enough for freshmen, and doubted if pupils of the eighth grade were sufficiently developed mentally to derive much good from such a course. However, I decided to do my best with the experiment. I felt that whatever I did, I must gain the interest of the pupils at first and hold it; so I began with flowers, as they are attractive to children. There was no lack of material for illustrative purposes. Nasturtiums were abundant; so each child was supplied with some of the blossoms for examination. I told the pupils about the different organs of the flower and the function of each part. This led us to a study of pollination and the formation of seed and fruit. The nasturtium again served our needs. We found plenty of fruit in which some of the ovules had not been fertilized and others in which the ovules had been fertilized at different times. Pansies and sweet peas were used, not only to show different types of blooms and fruits, but also different types of leaves. Wild flowers, as well as cultivated ones, were brought into class for use.

Different kinds of seed pods began to attract the attention of the pupils; so I had them make a collection of different kinds of seeds and fruits, each kind being put into a separate envelope, upon which the pupil had written a description of the seed or fruit telling how it was fitted for disribution. This problem was to test the pupils' ability to observe and to draw conclusions.

I was so well pleased with the results of this experiment that I decided to try another. I asked the children to make a collection of pressed flowers and

leaves. After showing them how to mount them, I asked them to write the names of the various parts of these flowers and leaves just as if they were labeling a drawing instead of a pressed specimen. This was to fix in their minds the meaning and, at the same time, the correct spelling of botanical terms. This too was a success.

We studied the trees near the school and learned to know them not only by their leaves but also by their forms and by their bark patterns.

Having explained the structure of the epidermis and the cross section of a leaf from sketches made on the blackboard, I let them see specimens of these under the compound microscope in order that they might more clearly understand how a leaf is fitted to perform its different functions.

We made a study of various kinds of stems and roots and of the purposes which each serves to the plant.

I wanted the pupils to realize, as fully as possible, that a plant is an individual fitted for carrying on its life activities just as successfully as man is fitted for carrying on his life activities.

We also made a study of molds and bacteria, spending most of the time, however, in learning how bacteria may be a help or an injury to man.

As an introduction to physical geography, I began with surface features, the work of streams being the first subject studied. The children from their experiences gave plenty of examples to illustrate the points which we were discussing. I used "Soils" as the next topic. This gave us a chance to study weathering as well as the different types of soils. We followed this by a study of glaciers and their work. The region around Woodstock is glaciated; consequently the pupils were interested in learning about the bogs, the lakes, the glacial drift, and the boulders. There are fossils in some of the rocks that have been carried down by the ice sheet; so we had a chance to examine some of them.

For several days in succession, we watched the changes in the barometer and correlated these with the weather conditions. We watched the effect which change in temperature had upon the thermometer. We studied the cause and the direction of the winds; also the cause and the distribution of rainfall. We were then ready for the interpretation of weather maps.

In physics, we performed experiments illustrating the following phenomena, as we studied about them: osmosis, diffusion, distillation, the changes in heat that are necessary in transforming matter from one state to another, the effect of heat on the volume of matter, and the methods of transference of heat. We also made a study of the principles involved in the manufacture of ice and in the construction of the fireless cooker and the refrigerator.

In chemistry, we studied the properties and uses of a number of common elements and performed a few experiments, such as the making of oxygen, hydrogen, nitrogen, and carbon dioxide, also the decomposition of water.

I had the pupils write up several of the physics and chemistry experiments telling the aim, the method of procedure, and the conclusions drawn from the results obtained. This was to give them training in stating the steps of an experiment in a logical order, in cultivating accuracy in observation, and in drawing conclusions.

We studied zoology in the spring—the time when there are plenty of live animals for illustrative purposes. Frogs, toads, fishes, salamanders, crayfishes, (some having their young attached to their swimmerets), garter snakes, field mice, gophers, mussels, and insects of various kinds were brought by the pupils. No matter what animal was brought, I asked the pupils questions about its habitat and its habits, and let them give what other information they could. Then I told them other things about the animal which I wanted them to know.

When we were studying the lower forms of animals, several of the pupils brought specimens from their home collections, such as shells of marine mollusks, dried starfishes, sea urchins, sand dollars, and pieces of different kinds of coral.

The work in zoology was not a hodge podge. I had a definite plan which I followed. I used the material that was brought to illustrate the groups of animals which we studied, and it certainly added to the interest in the subject.

In physiology, we studied from a chart, the anatomy of the body. We had a few models also, which I used for demonstration purposes. One boy brought a man's skull for the class to see. This was far more interesting to them than any picture or model.

When we were studying the blood, I let the pupils see the blood circulating through the web of a frog's foot. They got an idea not only of its movement through the small arteries and capillaries but also of the size and shape of its corpuscles so that they could compare these with the size and shape of the corpuscles in blood taken from one of the members of the class.

When we were studying foods, we tested various foodstuffs, which the children brought, in order to find whether they contained starch, protein, or simple sugar.

We covered all of the work that was given in the text-book, "A Year in Science" by Weckel and Thalman, and we covered a great deal more. The pupils now and then brought articles in magazines or newspapers that dealt with subjects which we had taken up in class. Questions of various sorts came up for discussion. There was never a dull recitation period. The pupils were interested in the work. Often they came to my room after school to ask questions about things which they had seen, or about articles which they had read. I covered almost as much material that year with the eighth grade pupils as I did with the ninth—the chief difference being in the amount of laboratory work done.

I taught general science in the eighth grade the next year also. That first year converted me. I was no longer the "doubting Thomas." I was convinced that pupils of the eighth grade can, and do, understand science if it is presented to them in a concrete manner. They can reason, and finally they begin to enjoy trying to think out the whys and the wherefors instead of dreading that part of the work.

If general science is given in the eighth grade, it forms an excellent foundation for the further study of the science. I have taught physical geography, botany, and zoology to these same pupils since they came into high school. In the same classes with them have been others who have not had general science. There is a decided difference in the readiness with which these two groups grasp the essential points in these subjects. Those who have had the year of scientific training are more able to think out the reasons for things than the others. Many of the terms which they find in their assignments are ones which they learned in general science. Consequently they are relieved of that task and can devote their time to getting an understanding of what is new to them. This enables them to prepare their lessons in less time than the others and to prepare them better.

Before writing this paper, I felt that I wanted to know the pupils' estimate of the value of general science as applied to themselves, so I prepared a short questionnaire to be filled out by the freshmen and sophomores who are taking courses in science. I told them not to write their names on the papers, for I wanted them to feel free to say whatever they thought in giving the information for which I asked. The following questions are the ones that I used:

"1. What effect, if any, did your work in general science have upon your selection of subjects in high school?

"2. How has the study of general science been a help to you in your high school work?

"3. What effect, if any, did your work in general science have upon your observation of things about you?"

I made the following request of the pupils in these same classes who had not had general science:

"If you have felt that the pupils who had general science in the eighth grade have had an advantage over you in any course in high school, tell why you feel that general science has given them this advantage."

Eighty-nine pupils, answering these questions, had had general science in eighth grade and fifty had not had it. I shall give a brief summary of their answers.

Several said that general science had had no effect in causing them to select the course which they had taken. A large number said that they were taking the scientific course because they wanted to know more about physiology or chemistry. Others said that they were anxious to learn as much as possible about the different sciences, for a knowledge of the sciences would always be useful to them.

The answers to the second question showed that the pupils realized that the study of general science had been a help to them in their high school work. Several spoke of the enlargement of their vocabularies not only by the addition of scientific terms, but of other words. Others spoke of the benefit which general science had been to them in such special courses as cooking, sanitation and hygiene, botany, zoology, and physical geography. Several spoke of finding references in other subjects to things which they had studied in general science.

In answering the question regarding the effect which general science had had on their tendency to observe things, some said that they had not noticed any change in their attitude. Others spoke of being especially interested in trees, flowers, animals, work of streams, or something else in their environment. Several mentioned various things which they had observed, and said that they had tried to find out all that they could about them.

The answers from the pupils who had not had general science indicated that they felt that the others had a decided advantage over them. They saw that those pupils knew better how to study the sciences and grasped the meaning of many things more quickly than they. They said that those who had had general science observed more carefully and expressed their thoughts more accurately than they were able to do. They also spoke of the large number of words which had been added to the vocabularies of those students.

I talked to the teacher who has the classes in home economics and sanitation and hygiene regarding the benefits of general science to pupils taking these subjects. She said that the girls who had had general science did much better work than the others, on account of what they had learned in physics, chemistry, and physiology in the eighth grade.

These answers show the estimate which pupils and teachers place upon the value of general science as an eighth grade subject.

In the novel, "Clayhanger," Arnold Bennett represents Edwin Clayhanger as having finished his school career and starting out to face the world, knowing scarcely anything of physics and chemistry and nothing of astronomy, geoglogy, local geography, plants, animals, or physiology. Do we want our students to go forth thus handicapped? Give them general science in the eighth grade as a "safety first" measure, and then arrange the high school curriculum so that all may have a chance to take one or more of the sciences. General science will prove an incentive to many pupils to enter high school. We use athletics as a means of holding pupils in school. Why not give science a chance also?

Following the formal papers of the morning, a general discussion arose concerning the relative value of a one-year biology course as

compared with separate course in botany and zoology. A number of teachers spoke briefly and the general trend of opinion seemed to be in favor of the one-year course in biology.

The afternoon session began very shortly after two o'clock. The first number on the program was a paper *Educational Measurements as a Means of Improving Instruction in High School Biology* by Professor Walter S. Monroe, Director of the Bureau of Educational Research, University of Illinois. His paper follows:

## Educational Measurement as a Means of Improving Instruction in High School Biology

**Walter S. Monroe, University**

Although many educational tests have been constructed during the decade just past and many of these instruments have been and are being used widely, there has been reported only one explicit attempt to devise an educational test for the field of biology. This was by N. M. Grier in the Journal of Educational Psychology in volumes IX and X. Mr. Grier devised a range of information tests, one for physiology, one for zoology, and one for botany. The form of these tests is such that they cannot be considered satisfactory for general use. Three other workers, E. R. Downing,[1] G. M. Ruch[2] and P. A. Maxwell[3] have devised similar tests in the field of general science. In the survey of the Gary public schools, Otis W. Caldwell used a group of nine tests in the field of general science, five of which were within the field of biology. The tests are not suitable either. It is, therefore, necessary to acknowledge that test makers have made no contribution that can be of much service to teachers of biology.

When one considers the large number of tests which are available in the field of such elementary school subjects as arithmetic and reading he cannot fail to be impressed with the lack of available tests for teachers of biology. The question naturally arises—Why have the makers of educational tests failed to produce measuring instruments in the field of biology? It should be pointed out that the situation with respect to biology is not materially different from that of a number of other subjects in the high school. Several reasons may be given in explanation of why biology tests have not been constructed. In the first place, there are relatively fewer teachers interested in biology than in many other school subjects. The number is much less than those who are teaching elementary school subjects such as arithmetic, spelling, handwriting, and reading. It is even less than those teaching algebra or Latin. This lack of interest in the subject is one reason. A second reason, which is closely connected with this, is that the number of pupils to be tested is relatively small. If tests were constructed there would be relatively much less demand for them than for tests in most other school subjects.

The two reasons just mentioned are not in my judgment the most fundamental ones. A prerequisite for the construction of a satisfactory educational test is the definition of the objectives to be obtained in the teaching of a subject. Teachers of biology will, doubtless, agree that there is a conspicuous lack of consensus of opinion as to just what should be taught in a high school course in biology. An examination of textbooks would show wide variations with reference to the em-

---

[1]Downing, E. R. "A Range of Information Test in Science," School Science and Mathematics, 19:228-33, March, 1919.

[2]Ruch, G. M. "A Range of Information Test in General Science," General Science Quarterly, 4:257-62, November, 1919.

[3]Maxwell, P. A. "Standardization of First Year General Science Tests," General Science Quarterly, p. 226, May, 1921.

phasis upon different topics and even differences in topics to be taught. Until there is a fair degree of agreement upon the content of biology it will not be possible to devise a satisfactory instrument for measuring the results of instruction. Any test would measure only certain outcomes. A teacher who is striving to engender other outcomes would not find such a test helpful. It is possible that he would find it a hindrance to the most effective work. However, if teachers could reach an agreement concerning the minimum essentials of biology, it is doubtful that test makers would be able to construct satisfactory tests.

In the tool subjects of the elementary school the objectives to be attained are skills. Pupils are to be trained to be fluent in the operations of arithmetic, in handwriting, in silent reading, and in language. It is relatively easy to measure such abilities. In the teaching of biology relatively few skills are engendered. A few facts are to be memorized but the most important objectives have to do with the engendering of information, perspectives, and attitudes. These controls of conduct are less tangible than skills and it is difficult or impossible to measure them satisfactorily. At least, at the present time, we have not been able to devise satisfactory instruments for doing it.

Even if it were possible to measure the results of instruction in biology, our plan of instruction is such that teachers would have little opportunity to make use of this information. Abilities cannot be measured until they have been engendered. This means that a test for the purpose of measuring results of instruction cannot be applied until after some instruction has been given. According to our usual plan of instruction in most high school subjects, a pupil seldom returns to a topic after he has received instruction upon it. Since teachers could not give an achievement test until about the time a topic is being completed, they would have little opportunity to use the diagnosis secured. Therefore, if tests for measuring the results of teaching in the field of biology were available, they would be of little value to teachers for diagnostic purposes. It is true that, for certain purposes, such as the making of a school survey or the supervising of instruction, a test which would measure the achievements of pupils in this field would be valuable.

There is, however, one type of test which would be very valuable to teachers of biology. In the secondary school we are training pupils in the technique of study as well as engendering skills, knowledge, ideals, attitudes, and perspectives. In the elementary school most of the pupil's time is devoted to acquiring certain fundamental skills. The general procedure for doing this is very simple and definite. It is simply necessary for the pupil to get the right start and then to engage in attentive repetitions, avoiding errors, until the habit is fixed. In the high school we require the pupil to engage in more complex types of learning. He is given extensive assignments in textbooks to study. Sometimes this study means to search the assignment for the principal ideas. Other times it means to look for information bearing upon particular questions which are given to the pupil in making the assignment. At other times the pupil is expected to memorize the information contained in the assignment so that he will be able to tell what he has read or to answer questions based upon it. Some assignments the pupil is expected to study for the purpose of increasing his general information. Other assignments he is required to study, giving attention to details of vocabulary, sentence structure, etc. Study, therefore, has various meanings in the high school. Study in one school subject is frequently not the same as study in another. In all cases, however, it is complex.

Pupils come to the high school with little or no training in the technique of these complex types of study. One of the functions of the high school, and in some respects its most important function, is the training of the pupils so that they will be reasonably proficient in carrying on a variety of types of study. As in the case of achievement, some pupils acquire the technique of a given type of study very easily. Others have difficulty. A group of pupils who have been receiving the same instruction will not be found to be equally proficient in the technique of study. The teacher, therefore, needs an instrument which he may

use to diagnose his pupils with respect to their proficiency in the types of study that he requires of them. He needs to secure this information at the beginning of the school year because it will be futile to make assignments if the pupils do not know how to engage in the type of study for which the assignment calls. Such a test would not measure the achievements of pupils but rather their proficiency in the technique of a given type of study. It would be a test that could be given at the beginning of the school year. It would be a test which would not require any information in the field of biology or prerequisite training on the part of the student. It would merely consist of assignments which the pupil would be required to study in a particular way.

A prerequisite to the construction of such a test is the determination of the types of study which pupils are called upon to engage in. I have recently been attempting to determine for a number of high school subjects the types of study which teachers are accustomed to require of their pupils. Something over a month ago, a questionnaire was sent to a thousand teachers who had volunteered for this purpose, in which several types of study were defined and the teachers were asked to indicate, for subjects which they were teaching or had taught, the more important types of study which they were accustomed to require of their pupils.

In analyzing the processes of study with reference to the types it is helpful to think of study in terms of its outcomes. Study is a productive activity. As a result of engaging in study a pupil produces something. This may be a written record; it may be simply ideas stored up in his mind; it may be an enlarged vocabulary; it may be merely a point of view or attitude; but in all cases there is some outcome to the process of study. I have recently made an analysis of textbook study in which reading is the central activity. Twelve types of study have been defined in terms of their outcomes. This list may not be complete. It is not intended to include indirect or generalized outcomes of study. These outcomes are not the product of studying a particular assignment but, rather, are built up over a long period of study. Their realization occurs as a by-product of the production of the direct or the specific outcomes. Included in these generalized outcomes are:

1. Acquisition of more effective methods of thinking or reasoning.
2. Interest in and appreciation for a given field of study.
3. Acquisition of more effective modes of expression.

In the list of types of textbook study given below, there is some overlapping. Furthermore, it must be recognized that two or more of these outcomes may be produced simultaneously. However, it has seemed wise to recognize the distinctions implied by this list for the purpose of analyzing the process of study.

I. *Comprehension of material read plus memorization so that it can be reproduced.* This reproduction need not be verbatim. It may be given in the pupil's own words, but it should include most of the minor ideas as well as the central ones. This reproduction may be given in the form of "free composition" as the case when the pupil is simply directed *to tell* what he has read. As a special case, the reproduction may take the form of "answer composition" in which the pupil is asked specific questions which he answers in terms of what he has studied.

II. *With the text at hand preparation of a summary which contains the central ideas of the assignment studied.* In this summary the central ideas should be given but the supporting details are not essential. Neither is it expected that the relative importance of the central ideas be indicated. It is not expected that this summary will be given in outline form, which is recognized as a different outcome.

III. *With the text at hand, preparation of an outline which gives the principal points and supporting details arranged to show order of relative importance and relations to each other.* This outcome overlaps the preparation of a summary. An outline may be considered a summary but a summary is not an outline. There are also differences other than those of form.

IV. *Obtaining information for the purpose of solving problems or answering questions.* In the production of this outcome the pupil has the questions or problems before him as he studies. He is getting information for specific purposes. The problems or questions with which he is dealing may vary widely with reference to scope. The required answer may be a single fact or it may involve the preparation of a well organized report covering several pages.

V. *Extension of one's range of general information by reading widely material directly related to a given subject.* This outcome is general and indefinite. It is difficult to define in explicit terms. The information which the pupil acquires may not be very precise and so far as this outcome is concerned it need not be well organized, although it relates to some general topic.

VI. *Discovery of collateral or illustrative material for topics or problems under discussion.* This type of outcome is closely related to and overlaps somewhat with V. It is, however, believed that a distinction is worth while. The pupil's purpose is somewhat different when he is looking for collateral or illustrative material rather than information to use in the solving of a problem.

VII. *Enlargement of vocabulary.* Vocabulary may be enlarged in two ways. One may become acquainted in a general way with new words. Such acquaintances with words is sufficient for a great deal of general reading. Another way in which a vocabulary may be enlarged is by the determination of the technical or precise meaning of the words peculiar to a given subject. In most school subjects there are some words which have a meaning which is peculiar to that subject. These words may occur in general reading or in other subjects with a different meaning or they may be words which are found only in the field of the one subject. This outcome overlaps a number of the other outcomes enumerated here; or perhaps it is better to say that it is produced simultaneously with other outcomes. It is, however, possible to think of pupils studying primarily for this purpose.

VIII. *Appreciation of the significance of each word used in a concisely expressed statement or principle.* This type of outcome results from the intensive study of an assignment with reference to the implications of all words contained within it in richness of meaning or emphasis.

IX. *A clear comprehension of the essential conditions of a problem which is to be solved.* This is essentially understanding what is given and what is to be found or done in the solving of a problem.

X. *Discovery of new or supplementary problems related to the topic being studied.* In the production of this outcome the pupil is maintaining a critical or questioning attitude. The discovery of new or supplementary problems may grow out of a comparison of a statement by one author with a statement by another or out of the comparison of the assignment with the pupil's own experience.

XI. *Drawing valid conclusions from given data or statements.* A special case of this occurs in the determination of the validity of statements or inferences. In this case the given statements or inferences are compared with other statements or with one's general store of information and a conclusion is drawn. This is essentially nothing more than drawing valid conclusions from the data or statements at hand.

XII. *Following directions with accuracy and reasonable speed.* This outcome is produced only when the assignment to be studied consists of directions to be followed.

In the questionnaire referred to, teachers were asked to indicate the major types of textbook study which they require of their pupils. They were directed to answer this question only for subjects which they are now teaching or have taught. A preliminary tabulation giving the results of the first 246 questionnaires is given in Table 1 for the school subjects mentioned most frequently.

TABLE 1. THE IMPORTANT TYPES OF STUDY REQUIRED OF PUPILS IN CERTAIN SUBJECTS

| Subjects | No. of Teachers | Types of Study | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I | II | III | IV | V | VI | VII | VIII | IX | X | XI | XII | Total |
| Geography | 51 | 43 | 23 | 27 | 28 | 29 | 28 | 6 | | 5 | 9 | 15 | 8 | 221 |
| History and Civics | 84 | 64 | 38 | 49 | 36 | 50 | 38 | 15 | 4 | 10 | 18 | 25 | 5 | 352 |
| Literature | 78 | 70 | 40 | 40 | 25 | 40 | 18 | 67 | 40 | 5 | 11 | 12 | 13 | 381 |
| Physics | 39 | 25 | 7 | 6 | 26 | 6 | 7 | 5 | 13 | 19 | 12 | 29 | 20 | 175 |
| Chemistry | 27 | 19 | 6 | 5 | 16 | 8 | 4 | 3 | 7 | 10 | 10 | 18 | 15 | 121 |
| Physiology | 33 | 24 | 9 | 10 | 13 | 8 | 6 | 8 | 2 | 5 | 10 | 11 | 11 | 117 |
| Biology | 33 | 23 | 10 | 7 | 14 | 13 | 11 | 10 | 2 | 4 | 11 | 15 | 16 | 136 |
| Agriculture | 22 | 12 | 6 | 7 | 16 | 8 | 6 | | 3 | 7 | 10 | 12 | 8 | 95 |
| Arithmetic | 54 | 10 | 2 | 3 | 31 | 1 | 3 | 3 | 12 | 45 | 21 | 19 | 29 | 179 |
| Algebra | 55 | 17 | 1 | | 35 | 1 | 3 | 5 | 21 | 47 | 17 | 27 | 32 | 206 |
| Geometry | 48 | 22 | 1 | 1 | 26 | | 2 | 8 | 17 | 37 | 19 | 36 | 27 | 196 |

Thirty-three teachers reported for biology. The outstanding characteristic of their replies is the lack of agreement with respect to the types of learning they are requiring of their pupils. Each of the twelve types is mentioned. The most frequently mentioned type is I, "comprehension of material read plus memorization." The least frequent is Type VIII, "the appreciation of the significance of each word in a concisely expressed statement or principle." The total of the frequencies is 136. Since, only 33 teachers reported, this means that most teachers are not accustomed to require a variety of types of study in biology. The average number of types reported is four. The situation with reference to biology is not materially different from that for the other subjects. With only three exceptions, all types of study are mentioned for each subject.

There is, however, a considerable concentration of opinion on certain types of study. Twenty-three of the thirty-three teachers reported Type I, "comprehension of material read plus memorization." Nearly half of the teachers reported Type XII, "following directions with accuracy and reasonable speed," and Type XI, "drawing valid conclusions from given data or statements." Type IV, "obtaining information for the purpose of solving problems or answering questions," was mentioned by fourteen teachers and thirteen teachers mentioned Type V, "extension of one's range of general information by reading widely material directly relating to a given subject." These are the types of study which, in the judgment of the teachers reporting, are most important in the pursuit of biology. They indicate the types of outcomes which teachers of biology are asking their pupils to produce.

What service can be rendered by educational tests in dealing with the situation that has been revealed? First, after the educational tests have been constructed they will define the types of study which are most important. It is generally urged that the grade norms for achievement tests be accepted as statements of our objectives. If these tests have been properly constructed they do give us our most satisfactory definitions of our objectives. For example, the Ayres' Spelling Scale is not only a measuring instrument but it also defines certain objectives in the teaching of spelling. Likewise, when we have determined the types of study which represent the most effective study procedures for obtaining the desired objectives in a given subject, we may construct tests to measure the effectiveness of pupils in these types of study. The norms for such a group of tests will define the types of study in which a teacher should train his pupils and will also define the degree of proficiency which the pupils should exhibit. Educational tests which have for their function the diagnosis of pupils with respect to their study habits will, therefore, render a distinct service to the teachers by defining the types of study that are most important in a given field and indicating the degree of proficiency which is expected in each type.

An educational test of this kind will also be very helpful to the teacher by making possible the diagnosis of pupils with respect to their study habits. A teacher can not attain his maximum efficiency without diagnosing his pupils from time to time. It is imperative that he ascertain the extent to which each pupil has learned or failed to learn the things that are asked of him. Without this information, the teacher is certain to over-instruct or under-instruct, at least in the case of some pupils.

One significant feature of a test which diagnoses pupils with reference to their study habits is that it can be given early in the school year. It does not depend upon the completion of any topic or group of topics. It will not demand as a prerequisite that the pupils have any particular body of knowledge. It will measure the pupil's ability to engage in a certain type of learning rather than measure what he has learned as a result of the instruction he has received.

In my judgment, this type of test promises to be of very much greater value to teachers in the secondary schools than the traditional type of achievement test. As I indicated in the beginning, I do not see how the usual achievement test can ever be of much value to teachers in the secondary schools. But this other type of test appears to promise much.

After finishing his paper, in response to questions asked by George W. Hunter, Professor Monroe went further into detail in respect to some phases of his subject. After some discussion, Miss B. Eva Hoehn, Carlinville, Illinois, presented her paper, "The Teaching of First Aid in High School Physiology." It includes an account of such a course which is being taught at Carlinville. This is a paper on a sub-topic of the main topic up for discussion, namely,—Experiments having a bearing on *content* or the *methods* of high school biology. Miss Hoehn's paper follows:

## The Teaching of First Aid in High School Physiology

**B. Eva Hoehn, Carlinville, Ill., High School**

To advocate the introduction of some new subject matter in a biology course may seem radical, but the writer is convinced that First Aid has a real place in the human application of biology. Instruction in First Aid has been offered as laboratory work in physiology in the Carlinville Community High School for the past three years and the instructor believes it has an educational value that is so important that it should be included in the proposed required science course in whatever form such a course may be presented. Physiology, although a science subject, should be more than organized knowledge; it should be a live, vital factor in the lives of the boys and girls, or its mission has failed. Sometimes the physiology taught is so dry one can hear the bones rattle. Biology becomes an applied science when it is interpreted in its relation to the well-being of man and in this relation First Aid in physiology fills a place peculiarly its own. Since the teaching of First Aid in high schools is a deviation from the usual, the customary, it should have justification of a place in the work of education. A new course must satisfy the aims of education, must bear a social or civic aspect, and must solve at least some of the criticisms advanced against older courses of instruction.

The primary aim of education is conceded to be that of self-preservation and health and in this aim First Aid has a most unique place. A student could hardly be in the atmosphere of constructive health discussions and practices for four or five months and not come out of it better equipped to care for his health and with a greater appreciation of the wonderful mechanism of the human body and the laws under which it operates.

But First Aid does not deal with preservation of self alone, but of one's fellows as well. It is doubtful whether another subject is as truly altruistic as is this one. Some one once said, "Life is not a goblet to be drained, but a measure to be filled." On countless occasions it has been an inspiration to see the boys and girls planning how to help the other fellow, in fact, the sentiment expressed by the students most often is that he is glad to be able to care for the unfortunate one, in this or that manner. The thought of self is secondary. The altruistic aim of education is not to develop sentiment but to render practical service. The world needs greater sincerity in the welfare of men, but it must be of a helpful kind. It has been estimated that in one year the United States paid a toll of 66,116 deaths from preventable causes, due to ignorance or carelessness. This number is within 900 of the total deaths in nineteen months of the war. There is no way of ascertaining the number and variety of accidents occurring which result seriously because of lack of proper safe-guards or proper emergency treatments. The benefits of a wide dissemination of First Aid training would be inestimable. Employers in dangerous industries state that the number of accidents have decreased, and less time is lost through lack of care of injuries where short courses in First Aid have been introduced, and yet in our texts in physiology the subject receives little or no attention. In great disasters such as wrecks, ex-

plosions, floods, etc., a few First Aiders can render immeasurable assistance, but how much good could be accomplished if every high school boy and girl had training in doing the right thing at the right time.

Biology people think biology is the essential subject in a high school curriculum naturally, and have expected students to see it in the same light and consequently elect the subject. But from reports read at this conference several years ago there came an awakening that science, at least the biological, was not holding its own, but was losing ground. Then those interested began to ask for reasons. Some of the criticisms offered were that students avoided double period classes, did not see a practical value in the subjects, and disliked classes in which laboratory note books were required. These complaints have not been advanced against Physiology in our high school for the pupils find the time all too short and they consider the course is practical. The laboratory time is spent in actual practice work with regulation First Aid materials, on actual patients suffering from imaginary, of course, but very possible injuries. The classes are not decreasing in enrollment, but are steadily on the increase. In 1919, there were twenty-eight in training; 1920, thirty-eight; 1921, forty; and in the second semester this year, there will be sixty. The work is offered to Sophomores who have had Zoology the preceding semester. Seventy out of a possible ninety had elected Zoology and Physiology, but because of our crowded conditions this year, the classes were closed to all but sixty. It is necessary to explain that the Carlinville High School enrolls about three hundred students.

While taking the training herself the writer thought she saw material of merit in the teaching of First Aid in high school physiology so decided to give the course a trial. The following course is but a brief syllabus of the work presented and no attempt is being made to elaborate upon any part of it. Much drill is necessary for proficiency in anything. This is particularly true in First Aid, if one is to serve the injured person effectively. The course is divided into twelve type topics:

I. Meaning of first aid; relation of first aider to doctor; characteristics of a good first aider; meaning of shock, its symptoms and treatment.

II. Kinds of bandages: roller, triangular, compress; their proper applications to various parts of body; good and bad bandaging.

III. Slings of various kinds and proper usage; improvised slings.

IV. Bruise, sprain, and strain treatments; dislocations and their reduction; bandaging.

V. Fractures, simple and compound; proper handling of fractured bones; splinting.

VI. Wounds,—meaning, kinds; dangers of infection; treatments of various wounds; meaning of clean dressings.

VII. Bleeding or hemorrhages; taking pulse; locating pressure points in stopping arterial bleeding; making a tourniquet; use and abuse of a tourniquet.

VIII. Burn and scald treatments; use of picric acid gauze.

IX. Practice in rescuing from electric wires, burning, drowning. Proper treatment in each case.

X. Poisons,—corrosive, irritant, and nerve; antidotes and treatment.

XI. Unconsciousness. Analysis of symptoms accompanying various causes of unconsciousness as: bleeding, heat exhaustion, sunstroke, freezing, fainting, fits, apoplexy, injury to brain, poisons, alcohol, morphine.

XII. Methods of carrying injured by one carrier, two, three or more; making up an improvised stretcher; stretcher drill by teams.

The classes are divided into teams of boys and teams of girls of five or six members, one being selected near the close of the course as captain, while each of the other members of the squad is assigned to a definite position. The reason

for deferring the assignment until near the end of the course is that all may receive training to work in any position. The practice work is done upon several members of the team or upon boys borrowed from the grades for the occasion. Every student is given the opportunity of much practice in treating every injury. Complex problems are later given for analysis and proper treatments that the students may learn to know injuries of greater and less importance affecting the chances of recovery of the patient. Such analysis requires as much concentration and careful discrimination as in most any subject in the high school, and as one of the boys expressed it—"It sure makes one think," Such problems might be, "Man found under fall of roof with punctured wound in abdomen, broken rib on left side, cut on right side of head, bleeding in spurts. Treat."; or "Man found on live electric wire face down; rescue and give artificial respiration;" or "Burns on both upper arms. Treat."

The equipment for such a course is quite simple, in fact, the materials a First Aider should learn to use should be simple as he will not likely find ideal equipment ready for his use in an accident, but must avail himself of the things he finds near at hand. He is trained not to wait for supplies, but go ahead, for life sometimes hangs by a thread but five minutes long, but a First Aider can hold on to that small chance and save the life. The references used are the practical and simple texts published by the American Red Cross and the U. S. Bureau of Mines and Minerals. A First Aid Emergency kit and American Red Cross First Aid Charts, together with splints of wood, bandages of gauze and muslin, and a stretcher and blankets make up the simple equipment. The boys can make the splints from those used for fractured hand to those for a broken back, and the girls are anxious to make up bandages and compresses. The directions for both are given in the Advanced Course in First Aid from the Bureau of Mines and Minerals.

Since we are teaching boys and girls and not subject matter, we like to know their opinion of the course, even though it may not indicate the educational value entirely. Questionnaires were given to those students still in school who had had First Aid training with the request to answer and return the same unsigned. The following results were obtained:

46 responses were received.

1. Do you think First Aid has been of practical value to you?
Yes, 46; No, none.

2. Do you think it has made you consider danger of accidents more?
Yes, 44; No, 2.

3. Have you used your knowledge in any way?
Yes, 42; Do not remember, 4.

4. Do you feel that you have been trained to think as well as in other subjects?
Yes, 46; No, none.

5. Do you feel it was wasted time?
Yes, none; No, 46.

6. Did First Aid add interest to Physiology?
Yes, 44; No, 2.

7. Do you feel a greater confidence in yourself in caring for injuries than before?
Yes, 44; Not sure, 2.

8. Does First Aid give you greater appreciation for the human body?
Yes, 46; No, none.

9. Where do you place First Aid among your studies?
First, 40; On an equal, 6.

A number discussed the questions at length. The following expressions were among them:

"This summer I spilled a bottle of acid all over myself and was severely burned. First Aid taught me to keep calm and to care for burns, which was very important in this accident."

"First Aid has taught me to control my nerves and keep calm."

"First Aid has made me more careful in doing things which may result in an accident."

"I have learned not to put my finger in my mouth or under a faucet when I cut it."

"I feel that the time spent in First Aid was the most profitable time of my high school life."

"I put pressure on an artery and stopped its bleeding, and held one broken limb which without proper handling could have become a compound fracture."

"Every boy and girl who has a chance should take it."

"It trains in thinking, concentration, and quick action."

"Have taken care of wounds and sprains successfully."

"Used artificial respiration on a boy taken from a pool."

"I have used First Aid treatments where formerly I'd considered the injury unimportant."

"Last year I rescued a girl from drowning in Macoupin Creek. The lessons of First Aid occurred to my mind first."

The Illinois Bureau of Mines and Minerals has become interested in the First Aid work being done in the Carlinville High School and has at the close of the course each year sent an examining board of the superintendents of the First Aid and Mine Rescue stations of the state to conduct an examination of the classes. The examination includes a written one on theory and a two hour demonstration test. A student satisfying the department is issued the regulation First Aid diploma of the Bureau and a First Aid pin which he is very proud to wear. One hundred six students of the Carlinville High School are possessors of the diploma and emblem. The diploma and pin are the same issued to the mine rescue teams of the state. The fact that organizations outside of the school circle see value other than a mercenary one, in a course, is merely mentioned, as it seems indicative of the school's coming closer to the people. At the last examination the public interested was made welcome and perhaps fifty visitors were favorably impressed. The boys and girls are given to feel that one graduated from a First Aid course has a duty and a privilege of service to his fellowmen which are peculiarly his own. In case he is present or near when an injury occurs, it is his duty to take charge and direct until the doctor comes, then his work is at an end. In no case does he interfere with the doctor's orders but becomes the doctor's assistant.

In this paper the writer has tried to present in a simple manner, a simple subject, but which she considers a subject vital to the health, happiness, and efficiency of everyone.

Discussion of the main topic was continued by George W. Hunter, Knox College, Galesburg, Illinois, in his paper on Experiments of Methods in High School Biology. This paper was a report of experiments conducted, under Mr. Hunter's direction, in the DeWitt Clinton High School, New York. Ninth grade boys were taught certain portions of Biology, some by the Developmental method, some by the Lecture method, and some by the Text-book method. They were tested

with two types of questions: memory questions and thought questions, in order to discover the relative values of the three methods of teaching. This report is published in full in School Science and Mathematics beginning in the December number, 1921, (Vol. 21, No. 9).

After the discussions were concluded it was moved and carried that the chairman of the meeting appoint a committee to be composed of two sub-committees to formulate a science course for the elementary school and a biology course for the high school. The appointment of this committee was deferred.

George W. Hunter, Head of Department of Biology, Knox College, Galesburg, Illinois, was made a member of the Executive Committee in the place of J. H. Whitten, Chicago, whose term had expired. The meeting lasted until 5 P. M. when it adjourned.

CLARENCE BONNELL, Harrisburg, Illinois,
*Secretary.*

### 4. CLASSICS SECTION

The morning session of the Classics Section of the 1921 Conference was presided over by Professor A. S. Pease of University, who introduced Dr. H. C. Morrison of the School of Education of the University of Chicago as the principal speaker of the morning. In his address printed below, Dr. Morrison emphasized the fact that the study of Latin belongs to the language-arts group; that therefore, we should begin with a large unit and abstain from drill on isolated elements and learn to read by reading. In order to teach pupils to read instead of to decipher, he said that a large body of easy reading must be produced. He declared that the largest value of classical study is the sense of contact with a great civilization and that without this we should become chronologically provincial. The address follows:

## Observations on the Teaching of Classics in Secondary Schools

**H. C. Morrison, Chicago**

I am not of those who think that the Classics should be excluded from modern education. I think it is a great misfortune that Greek has so far disappeared. I do not believe that all pupils should study Latin nor that Latin should be taught in every High School. I do not believe that it will long remain, or that it should remain, a part of the curriculum of general education, unless the product is made vastly different from what it now is. A subject which requires one-fourth of the pupils' entire secondary course has heavy responsibilities. Its place is not likely to be assured by the adoption of mere clap-trap ad populum captandum liveliness. That is not good morals nor, in my judgment, is it good politics. Nor is its place likely to be justified by its influence on English, nor by its so-called by-products. Admitting the most extreme claims in that direction, it would still be very difficult to say that the case of the present Latin program is justified on that ground.

It seems to me that the study of the Latin language and the Latin literature by all pupils who have a taste in that direction can be justified, and always will be justified, by frank acceptance of the principle that facility in the language and acquaintanceship with the literature are the only means of keeping modern life in vital contact with the great civilization upon which modern civilization is to a large degree founded, and the influence of which is still seen all about us in a multitude of social and cultural institutions.

If this reasoning is sound, it rests upon the Latin faculty to learn to so organize its teaching that it can generate actual reading power and intellectual enthusiasm for the language and the literature. That is the only way in which there can be made possible a vital sense of the Roman habit of thought, and the Roman way of looking at the world. The same principle applies with equal or increased force to Greek. It is probably true that we never really understand another people or another era except as we acquire the power of receiving thought from, and expressing thought in, their language. It is true that we may arrive at an intelligent apprehension of an epoch or a civilization from the study of history or of translations of the literature into our own tongue. But the difference between that kind of apprehension of a civilization, and the realization which comes from thinking the thoughts of another people in their own language is like the difference between reading the account of a calamity in a remote corner of the world, and viewing the same calamity on our own city street. Furthermore, it would not take very much argument to make clear that whatever the effect of familiarity with Latin upon our own vernacular expression may be, or whatever the reputed by-products may be, it is not likely that such influence and such by-products will come except to those who really use the Latin language.

In the time at my disposal I can only sketch out to you what seem to me to be the lines along which reforms of Latin teaching must proceed if it is to succeed in generating the power to which I have referred.

Latin is a mode of expression. It is the mode in which the thought of a great people expressed itself. Its use is learned in the same manner as all other modes of expression.

The history of the development in language-arts teaching is plain and unmistakable in its implications. Those of us who have been teaching for twenty-five years are able to recollect nearly all, if not all, of the revolution which has taken place. Let me note briefly some of the landmarks of that history.

The time was when we taught children to read their mother tongue by first teaching them their letters. After that we taught them words and, because we thought that the pronunciation of words was important, we taught them by various phonic systems. It is only in very recent years, however, that it became evident to a considerable body of teachers that the real problem was to teach children actually to get the thought from the printed page, and not to pronounce words. Laboratory investigations, and particularly the results of the army tests, show that an astonishingly large proportion of people who are supposed to be literate cannot read at all effectively, in the sense of being able to get the thought. What they have learned to do is to pronounce words, or, if writing, to make a more or less clumsy mosaic of words. And so the best modern teaching of reading teaches from the sentence only.

Our whole history of modern language teaching shows precisely the same changes, although the changes have not gone to anything like the extent to which they have gone in the teaching of reading. People who studied French or German for three years in the High School, in the large majority of cases, have been turned out without ability to speak, without ability to write, and without ability to read. What they have learned to do, in most cases, is laboriously, by the slow movements of their reflective processes, with rigid dependence upon the lexicon, to put words together. Some people, however, do need to know how to use French, or German, or Spanish; and, therefore, as you know, schools which were for the

most part of a commercial character, calculated to teach people how to use a foreign language within a reasonable time, grew up. They worked out an empirical method of technique which, with various refinements and improvements, is now finding its way into the teaching of modern languages. The development here, as in the case of primary reading, has been in the direction of direct teaching, of thought-getting from the printed page or from spoken discourse.

Another, not uninteresting and not insignificant episode in the recent history of language-arts development has come out of the Americanization schools. We used to attempt to teach foreigners the English language by first building up a vocabulary of isolated word elements, combined, if combined at all, in puerile sentences, and at an early date involved with the subtleties of grammatical usage. The laws of various states were not strong enough to draw foreign speaking groups into the schools. From 1901 down, within my own personal knowledge, that has been true. During, and just before the war, however, there came into effect here and there the direct teaching of usage, the learning to speak English by speaking it, the learning to read English by reading it; and the effect has often-times been remarkable. Whereas before, the legally liable foreigner came to school only in fear of the constable, now he began to come in overwhelming numbers because he actually learned to use the English language,—to him both an economic and social asset of great importance.

Now all through this early development we can see certain large factors standing out. We find them in the classroom; we find them as a result of laboratory study.

First of all, we see a steady progress away from the teaching of isolated elements and the attempt to build up usage synthetically out of these isolated elements. The psychological laboratory has made it clear that focalization in consciousness of these isolated elements always works as an inhibition to the use of the language, and always tends to induce the learner to build up a clumsy pattern of words rather than to express his thought.

In the second place, we see a steady march away from the attempt to learn a language just as a reflective process, and increasing appreciation of the principle that language is learned by practice in its use, and not by reflective application of principles thought out at every step. And so we see the steady elimination of the principles of grammar as a vehicle of learning usage. Latin teaching itself has gone far in that direction.

Finally, we see in the whole process constant expansion of the principle that in order to learn language usage, there must be much extensive use. And so, for instance, our classes read many, many times as much as they used to read.

And so I submit that a rough sketch of the changes in Latin teaching to enable Latin to accomplish its legitimate results and to remain an effective force in our modern civilization and culture, involves the following principles.

(1) Direct teaching of thought-getting from the Latin sentence.

(2) Definite elimination of drill on isolated elements.

(3) Learning of grammatical usage by practice in its thought relation in sentences.

(4) Conversion of English into Latin by direct practice in thought-expression instead of by practice in the finding of Latin words or phrases equivalent to English words or phrases.

(5) Obedience to the law of initial diffuse movements. What I mean by this principle is that in the early stages of learning everything must be sacrificed to make it possible for children to express themselves in some form of Latin discourse which has meaning, whether their early product conforms to the canons of Latin grammar or not. The principle is that if we can once get them to express themselves in Latin which has meaning, and reading the meaning of Latin into

English which has meaning, we shall find it comparatively simple to refine their usage into its accurate form. Conversely, they may be trained into no use but accurate use from the beginning, as is the attempt now: And Nature will punish the violation of her laws just as she does in other cases. The product will be, as the product always is, translation of Latin into English which is gibberish, and the rendering of English into Latin which is an incorrect word equivalent, and not Latin at all.

Finally, here as in other language-arts subjects, progress will depend very largely upon reading, reading, reading, and still more reading. Here indeed, it seems to me, is the point for Latin teachers who desire really to contribute to the cause to begin the production of properly graded Latin readers, so that pupils will have a chance, which simply doesn't exist today in any adequate fashion, to read at sight a great deal.

Except for the traditional inversion of the learning process, it would no doubt have struck people long ago as being humorous that children should read *The Commentaries of Julius Caesar* as their second stage in Latin, the *Orations of Cicero* for their third, and the poetry of Virgil for their fourth stage. The same reasoning would justify us in reading the Memoirs of Ulysses S. Grant in the third grade, the orations of Daniel Webster and the essays of Ralph Waldo Emerson in the fourth grade, and *Paradise Lost* in the fifth. The practical result is that, instead of having a four year's course in Latin, the child has four different courses in Latin, in each of which he practically begins anew. The thing, as I see it, which is needed, is the production of a great deal of reading material, without vocabulary and without notes, which would form a mass of material, increasing in difficulty on a very low gradient, and ranging from perhaps the middle of the first year to the end of the Latin course. I believe that a good deal more of the Latin of the Golden Age and of the Silver Age would be adaptable to this purpose. I think that the field of Patristic Latin could be laid under contribution and, of course, a great deal of Latin would have to be written for use in the earlier years.

Following this address, the election of two new members of the executive committee of the section was next in order. To fill these vacancies, Miss Fay Miller of Belleville and Miss Effie Case of Hinsdale were chosen, so that now the committee consists of the following: Miss Sophrona Kent, Jacksonville, Chairman, Miss Fay Miller of Belleville, Secretary, and Miss Effie Case, Hinsdale.

The meeting then divided into two groups to discuss separate topics which were reported by secretaries nominated in each division, as follows:

The topic for discussion in the group presided over by Prof. Barton was, *Experiments in the Laboratory Method of Teaching Latin.* This was a continuation of the discussion begun last year of the same subject. The leader was Mr. C. Russell Small of New Trier who had been elected chairman of a committee to investigate the laboratory method and consequently had sent out a questionnaire with interesting results as described in his paper which follows:

## The "Laboratory Method" of Teaching Latin—Is It Coming or Going?

I beg your kind leniency in listening to the slight contribution that I shall make to the topic as recorded in the sectional program for this morning. It was never my intention that the facts I shall present should form the basis for discussion at this conference, but rather that they might themselves serve as supplementary material in the way of commentary upon the main paper to be delivered in this sectional meeting; and it is quite by accident and not by purpose that I am acting in the capacity of speaker today.

Many of you will recall the most thorough and enlightening paper, read last year at the Conference of Illinois State Teachers by Miss Julia F. Evans of Maywood, Ill., in which she drew from her personal experience with the method as employed in her classes at the Proviso High School. In the discussion which followed, my own interest was directed to the extent to which the method had impressed itself upon the other high schools of our country, also the type and size of the schools where the method was possible, and whether its use was of material advantage beyond first year work, and what were the opinions of the schools which had used it.

A questionnaire was the awkward instrument employed in reaching my conclusions. And in presenting these conclusions, so obtained, I think I need not say that I lay no claim whatever to originality—for the tabulation of facts is on much the same intellectual plan as arranging dominoes. I am wholly indebted to those kind fellow-workers who responded to my appeal.

I ought to say here that in my questionnaire I made no effort to arrange a formidable host of questions to be answered yes or no, but merely made a plea for information as to whether the method was used in the school, whether it was favored, and how employed, its advantages and disadvantages. I did this for two reasons: first, that I might avoid *warping* the answers into my own particular groove; and secondly, because I believed that a certain inherent—shall I call it "positiveness"—which we school teachers seem to acquire from constant association with younger minds continually going wrong, would lead those favoring the method to write in enthusiastic detail about it and those who found it distasteful would voice their feelings accordingly. I failed in my surmise. With very few exceptions the letters were brief and "unemotional."

In order to reach as varied a group of schools as possible I issued the questionnaire to the schools listed in the Fifth Yearbook of the National Association of Secondary School Principals, 1921, sending out 600 letters. At the time of writing I have received 84 replies which, I hope, is at least the usual proportional return to the ever-odious questionnaire. However, from these few replies I have been able to derive some conclusions that are not without interest and value. Surely we classicists do not scorn fragmentary evidence as wholly unreliable.

Of the 84 replies only 9 approximate the Laboratory Method in its purity, a method combining the elements of test-cards, double-periods, supervision of study, and individual advancement. But of these nine, one undoubtedly misunderstood the meaning of the Laboratory Method, and one because of detailed reference to outside preparation could not strictly be included, and one fell into the group not so much by choice of method as by the fact that the Latin class consisted of only two students. Of the six remaining schools whose method was a close approximation to the method in question, one reported unfavorably of it.

The method, a product of Springfield, Illinois, seems to find the air of Lake Michigan most conducive to its development and well-being, for although there are sporadic showings of it in California and Iowa (and perhaps (?) in Pennsylvania), yet reports show it most in use in Illinois, Michigan and Wisconsin. Generally speaking, the farther East one goes, the less is it known; the Middle West

and West show acquaintance with it and some use of it, the West Coast reporting unfavorably.

Fifteen other schools of the eighty-four answering, reported some modification of the Laboratory Method (2), or the use of some distinct method such as, the Direct Method (3), Supervised Study (5), the Socialized Recitation (4), or the Project Method, the latter finding some favor in Pennsylvania. In some of these schools several methods were combined. One school reported briefly "Test by Cards" and from New Hampshire came the statement that in some parts of the state "Berlin and Sabin methods" were in use but (the writer believed) without much success. Atlantic City presented a unique scheme of dividing the school year into ten parts, the student being required to pass the work of each of the ten parts in a most satisfactory manner, failure therein calling for an immediate repetition of the work. I am sure, if we could divide our year into a greater number of parts so that failures would mean repetition of small units of work, and if such a dividing could be made to coincide with our present system of graduating large groups at yearly intervals could be altered, I am sure the work in Latin would be more thorough and student mortality less. I believe Atlantic City is making a step in the right direction.

One fact, in the use of the Laboratory Method, seems to be admitted generally and seems of insurmountable importance; namely, that where the classes are large the method is unsuitable. Only one school, reporting forty to the class, claimed that the "Laboratory Method was the only method for large classes," and from the letter's content I feel there was a misunderstanding of the term Laboratory Method. Schools reporting twenty to fifty students in class were of the opinion that the size of the classes precluded the use of the method. The definite statement that "fifteen students are all that can be handled by one teacher with success" shows that the Laboratory Method will have great difficulty in gaining ground until the constantly increasing crowding of schools and classes wanes.

Such statements as "system too rigid," "present program prevents adoption," "conservative," "no facilities," show that there is an administrative barrier to be surmounted. In general the conservative schools were those who feared that the Laboratory Method would not equal the demands of the College Entrance Requirements.

Other adverse arguments were: that "the difference in ability in the pupils of a class so conducted, would be in the way of the greatest good;" "the fact of the pupils not being together would be dispiriting to the slow;" and in one school where the slow had to catch up at the end of the term, "many gave up hope and effort."

"Hasty memorization for the purpose of immediate reproduction" was an objection devoid of strength from the fact that a "generous use of tests and reviews" corrected any inclination to carelessness.

From the fact that "the fun of reciting together" is taken away, the stimulating reaction of pupil to pupil is destroyed, class discussion is practically gone and (class) competition eliminated.

In as much as training by the Laboratory Method is almost entirely an ocular and not an auditory process, those who believe that the ear should be trained as well as the "eye" hold the method in disfavor. Certainly we must acknowledge that, though they are in the minority, certain students do learn rather by ear than by eye.

There would be too the loss of "sight reading."

Objection was made that the method is but a "crutch" to the student, implying that the pupil will impose upon the ever-present assistance of the teacher—the teacher thus "solving for the child the difficulties which he should tackle and solve for himself," and defeating the fundamental aim of making the student

think. But surely under a skillful teacher who would know when to give and when to refuse assistance, these objections must lose force. Still they are considerable.

The method in its purity does away with all home work. This fact brought forth the comment that the omission thereof was "dangerous and unnecessary." I am not sure that it is dangerous but it does seem to me unnecessary. And the question, "Why do away with outside study?"—in some degree, at least is pertinent.

Let me review rapidly the other objections which, if lacking in force, are at least suggestive, "no variety in the work;" "too imitative;" "repetition of English rules necessary;" "dullards can't get it;" "year by year students vary" (implying that the method lacks flexibility); "danger of confusion in class room; conditions must be favorable;" lastly, "the method is very hard upon the teacher"—this coming from one who by the peculiar arrangement in his school, was serving an extra period each day for every Laboratory class he supervised.

Without further comment I shall pass to the advantages of the system as enumerated by those who have employed it.

There can be no denying that the Laboratory Method with its work being done under the eye of the teacher, "does away with the persistent evil habit of copying;" furthermore, the system "encourages concentration"—a thing earnestly to be sought; and the student "gets help when he needs it most," "errors being checked at their inception;" "being thrown upon his own responsibility" he soon acquires a noticeable amount of self-stimulus; "the good student is enabled to move at a greater speed" but because of the system of individual attention, there is "greater thoroughness" in the work of both good and bad. Certainly, though as much ground may not be covered in the same time as under the old system, yet, in compensation, each member of the class has a "clearer notion of that which he has covered," be it small or great.

As if in answer to the statement that all competition is stifled by this method, one letter affirmed that "competition is stimulated." Unfortunately, no comment followed. In some schools classes are kept together, the fast student being prevented from running away from the poor student, by a careful division of the work into certain "stages of advancement" wherein extra assignments are given the brighter pupils to keep them employed until the slow ones cover the requirements of that stage. Under another system, reporting "no failures," "credit is given in proportion to the amount of work" the individual covers. If we are to understand by this that less semester credits are given the laggard (and not merely a lower grade), it would seem to demand a fearfully complicated system of credits.

One school reports the "elimination of the discipline problem." I confess it is hard for me to imagine the effervescence of "boy" yielding to any system! Again, from the fact that the student goes at his own rate of speed, being required to cover only so much ground as he is able, it is argued that there is "no absence problem." Whether true or not, it hardly seems relevant to the question in its important phases. Of far greater importance is the statement that the method is "objective" and that it "stimulates interest in English derivations," though in this latter respect it is hardly unique.

Such are the advantages and disadvantages of the Laboratory Method as presented in the letters I received from all parts of the United States. What conclusions may be drawn therefrom?

Certainly, there is an agreement among those who do and do not use, who do and do not like the method or a modification of it; namely, that some system where the student works under the closer guidance of the teacher and in which the self-responsibility is felt by the student and where mastery of a given prob-

lem can be assured and obtained before a new problem is approached—such a system is fondly to be hoped for. That the Laboratory Method satisfies to a great extent these needs seems generally acknowledged *for first year work*, although one school reporting in detail, demands three semesters for its completion. But there was general disagreement about its value in the second year; and it seemed to me that in no case was the method employed as defined; indeed, in a number of cases it seemed in no way different from the customary method. For third and fourth years its use brought no gain and was not encouraged.

Antipathy to the method was shown in all schools in which the College Board Examinations are a matter of consideration. Only a most thorough study into the showing made in these examinations by students developed under the Laboratory Method as compared with the records of students who are the product of the old system, will show whether this antipathy is groundless or not. Certainly the Laboratory Method will have to prove itself superior beyond a doubt, before it gains a foothold in those schools where the old system is still sending its candidates successfully through the Board Examinations.

One teacher with most refreshing frankness suggested that the teacher who sticks to one method instead of varying the method according to the varying needs of the individual student is a "dead-head." Rather blunt! But on second reflection is there not a big element of truth in it, after all? Do we not, many of us, employ our time fitting a child into a method instead of moulding the method to that child? Do we not, all of us, perpetrate the fallacy of talking about the needs of "the" child—as if, forsooth, there were such a thing—a kind of mechanical something, a thousand a day factory product, to be wound and set agog by one and the same style of key? And yet our experience tells us that every child is most emphatically individual and has his own particular means of approach.

Therefore that "Method" (granting that we care to aim at the employment of *one* method), if it is to reach each child, must be flexible enough to be applicable at all moments to the varying needs of each child. The Laboratory Method must stand or fall, as must all methods, upon its measuring up to this flexibility.

The group organized under Prof. A. S. Pease to discuss By-Products of Classical Instruction, united with that presided over by Mr. Canter on Problems in Teaching the Second Year of Latin. Prof. Pease suggested that since the leader of the former group had considered her topic chiefly in connection with the second year, it ought to be read to both groups. A joint discussion was accordingly held. Mr. H. C. Thory, the seceretary of the two groups should be complimented for his careful report which follows.

## Proceedings, Groups 1 and 3, Classics Section
## November 18, 1921

Mr. Canter opened the meeting, remarking on the fact that a great number of pupils drop out at the beginning of the second year, and that at this time there is an unevenness in the ability of the pupils; that there are about a thousand new words in the first 29 chapters of the first book of Caesar, some fifty case constructions, and a number of uses of the subjunctive. Some teachers start with the first book, although it is more difficult than the second.

---

*Miss Buhrman* did not read a paper, but talked from notes. She said that she likes to teach Caesar and that the problems interest her. One reason is the character of the man: a man who did things. In teaching Caesar, you must consider the personnel of the class. There are three problems in particular:

1. Interesting the student in the work of the class itself. One teacher said to me, "Get the pupils interested, and everything is accomplished." Some students have a notion that Latin is very hard. Many pupils take it because it is required and they do not think it is doing them any good. My experience has been mostly in small high schools, where Latin was the only language taught. The attitude of many students was that you had to be exceptional to be a Latin student. I don't think that is true. In a class of all boys I worked through Roman History. The boys liked it. They had a splendid history teacher. I tried to correlate Caesar with the Roman history and had some success. But you always have to consider your class. Another thing I worked with boys was the study of Caesar's achievements in a military way, and compared these with the Great War. Kelsey's commentaries are very good in this respect. I found that the boys liked the chapter on building the bridge. Work it out very carefully. In one class of girls I read the chapter to them. But with boys and any ordinarily good class you can work up some enthusiasm and fun for them.

As for games,—I have not used games very much, except for verbal drill. I have used it successfully in small classes. I don't like to handle it in large classes so well. The pupils made their own games, such as cutting the cards and printing on them the principal parts, etc.

The attitude of the teacher toward the work, toward Caesar: We cannot all like Caesar. If we can be enthusiastic about it, or at least pretend enthusiasm, it will help. Only a few students like to take the opposite side from you.

I have never tried Latin plays, but I hope something will be said about them in the discussion. I usually found the high school calendar too full to try them. I think there is a decided benefit to be obtained from them if they are conducted in the right way. These are ways of securing interest.

2. The next great problem is the difficulty of the subject and the gap between first and second year Latin. One high school principal told me he thought there should be a year between the first year and Caesar. He based his judgment on what he had heard pupils say. I don't like to think that that is true. The general difficulties ought to be recognized and smoothed over. The gap can be lessened by having more reading in the first year. But if you do a great deal of reading in the first year, you cannot get over all the grammatical points you ought to. Thus in Caesar there must be careful study of grammar, but the pupils must not get the idea that they are doing the same thing they did in the first year. It is a problem as to how to get this. The grammar must not be passed over casually as if it were a review. It must be done carefully. If there were more reading in the first year, there would not be such a gap. They would be accustomed to reading. One thing might be mentioned, although it might not be practicable except in a few cases. I had success with it in a class of boys in which I could not get the results I wanted. I took one of my spare hours, when I could help about three-fourths of the class, and it happened to be those who needed help. They studied and when they came across a difficulty which they could not master they came to the teacher, and I explained it to them.

3. The third problem is how to use best the 45 minutes of time, assuming you do not have a double period for recitation. What could be left out? Is there time for work on pronunciation in second year? Is there time to have the Latin read, and if so, how often? I shall not try to answer this question except to say that I am sometimes forced to slight these things. I am aware of incorrect pronunciation, but do I have time to correct it? Is it necessary enough? Is there time for supplementary reading, and if so, what? Is there time for geography and map study? I think there is, and that it is necessary to the understanding of the text.

Do you have trouble with classes in which there are seniors, juniors, and sophomores? How far should you go in demanding good English in your trans-

lations? Shall you have both literal and good English translations, or one, or one at one time and the other at another? I stand for good English.

There is a problem in presenting Caesar himself. I have found a critical attitude on the part of many students. Some think that Caesar was conceited. They criticize him because he tries to cover up his misfortunes and tells about his successes. I try to present Caesar in such a way that they will change that attitude. I say it more readily than if he did nothing and talked about himself. I consider him as a statesman first, then a soldier, then a writer. I enlarge about his deeds, and how his accomplishments have benefited us. Those are the main points.

There is one more: the teaching of composition, which is always a problem. I don't like to have a set day for composition, but I like to use it in connection with points of grammar I want to bring out, such as purpose clauses, gerund and gerundive, etc.

Mr. Canter remarked that the Latin teacher is in about the same situation that Caesar once was: having to do everything at once. Distractions have come into the high school curriculum. Mr. Canter also said that he thought it was pretty well agreed that the first year should be taken up with the forms, easy translations, easy composition, and some slight information about Latin and the Romans. In the second year, probably the most important is the matter of translation. Then there is the problem of syntax. Also the problem of vocabulary. Lodge has pointed out that there are 2200 words in Caesar some of which are not used very often. In the second year we accomplish the equivalent of the first four books of Caesar. There are 3011 (?) lines in these. Counting out time for composition, holidays, etc., that would make about 20 lines a day.

Mr. Canter also went on to say that in attacking the problem we ought to keep in mind what has been done. The high school conference has done something with the curriculum. The conference reports are not as widely distributed as is desirable. In the conferences proceedings for 1912, pp. 80-87, is a paper by a high school principal on "Factors That Make Second Year Latin Study a Critical One." In the same proceedings, pp. 87-90, there is a report of a committee on "What the second year of Latin study teachers look up this report and re-read it. In the 1913 proceedings, pp. 101-105, there is a report of a committee working through the year on Latin of the second year. We ought also to keep in touch with the articles in the classical journals.

Mr. Pease suggested that since Miss Case's paper bears on second year Latin, it ought to be read at this time, and that both papers then be discussed. Miss Case then read her paper on

### Some Ways of Arousing and Holding Interest in Latin

One of the most necessary problems for us as teachers to solve is how to arouse and hold the interest of our pupils. For it is only when he is keenly interested that a pupil will put forth his best efforts. Often a seemingly poor student is merely one whose interest has not been awakened. It is largely through

the "by products" of the language that he can reach the average scholar of high school age.

One of the quickest ways I have found to get every pupil in a Caesar class alert, is to conduct a war bulletin giving the news from the front. On this is hung a map of Gaul, drawn by a pupil who indicates daily, by the use of different colored pins the position of Caesar's army and that of the Gauls. The other members of the class hand in daily short accounts of the passage of "Caesar" which forms the day's lesson, written as tho they were reporting a war being waged at the present time. Each article is signed with the pupils' names, and the desire to have the accounts spirited and accurate enough to be hung on the bulletin leads to keen rivalry. Some of the pupils write their accounts as tho they were soldiers writing home, or were hostages or captives. These have excellent opportunities to discuss the customs of the Romans and Gauls.

Those who can draw, frequently illustrate their articles with pictures suggested by the text. For example, when hostages have been demanded, some of the articles will give pictures of the scene when the hostages are being chosen, or of a boy who has been selected bidding farewell to his people. Another may show a soldier dreaming of home, the dream appearing above his head. Each pupil is allowed to choose his own form of writing up the war and to illustrate it as he wishes, providing his written statements and pictures depict as accurately as we know the customs of that period. The purpose of this method is to make them realize they are reading the lives of real people, and by trying to put themselves in the place of others to develop their sympathies and ability to understand people, both of our own and foreign nations.

By treating each war in a different way the class recaptures that enthusiasm, which we all feel in a new undertaking. For instance, we use the war bulletin in reading only one war, tho the war map is continued throughout the year. The second war taken up we usually dramatize, sometimes writing the scenes, but more often giving the setting and stage directions orally. As each sentence is read, telling how we would act it out.

Interest seems also to be maintained by calling attention to the word pictures in the text, the scenes between the lines. As, where it reads, "Caesar ordered all the inhabitants of the town sold into slavery," a few minutes spent taking an imaginary journey with one or more of the Gallic captives, perhaps a brother and sister, picturing the sale of the slaves on the battle field, the long journey to Rome past Gallic villages, a brief description of Rome as it would appear to the captives when they were led through its narrow streets to the slave market, will not only teach Roman customs in an entertaining way and give a clear picture of the country of Gaul, but it will lead a class to see how full every page of the text is of historical and human interest. Their imagination, vision, the key to all progress, will be developed. They will appreciate the aptness of the definition of literature as "silent painting," for many chapters of "Caesar" are in reality a series of pictures.

Another way of making the work vivid is by the use of models of the war implements used in Caesar's time. If a pupil sees a full sized model of a Roman shield, javeline, sword, standard of a legion and also one of a cohort, he can more easily picture to himself the march of the legions. Models are also invaluable in explaining many passages of the text. Where Caesar, for example, uses only two words, "vineās agere," a complicated military manoeuvre was being performed. To make this clear models of an agger, or movable mount, plutens, vinea, movable tower, and ballista are all needed.

The comparison of the ancient and modern warfare is aided by the use of models, and this intensive study of one period, comparing the causes of war then and now, revealing as it does, the fact that human nature has not changed, renders the scholars more capable of understanding other periods of history. It moves

their horizon backward, giving them a broader view, and in a measure at least, takes the place of experience, giving them something by which to estimate values.

During the third and fourth years, we use the same method, picturing the scenes of Cicero's orations, and those in the aeneid. Comparing the Roman Senate with that of the United States, discussing the political conditions then and now, in the aeneid, along with the study of the myths, a study of famous statues and paintings lays the foundation for the appreciation of works of art which we encounter so frequently. The beauties of the language itself can be emphasized more during the third and fourth years, showing the different shades of meaning in words, effective word order and suggesting that these devises be used by the scholars in their English work. Showing how by what we call torch words a single word makes a whole passage vivid. This we do to teach the force of words and discrimination in their use.

Along with these efforts to visualize the text there is time for daily drill on principal parts, forms and constructions. In fact, this work goes more rapidly, as by this method the real value of the grammatical constructions, which is as a means of gaining the thought, becomes evident.

Some days an entire period is given to the review of forms, using either the old fashioned "spell down," or team work. For the latter, the class is divided into two teams stationed at equal distances from the board. When the captain of each team gives the signal the teams rush to the board and each pupil in the shortest time possible writes the declension of the noun or the conjugation of what ever tense of a verb was assigned him at the time the teams lined up. An umpire keeps the score. Each form correctly written counts five and an error deducts five. Another method we use for drill is by the Latin games which I have had printed. One of the games affords drill on all of the declensions of nouns, and the other four games are on each of the four conjugations. The purpose of the games is to impress the forms on the students' minds and make them think quickly. I think the method of playing these games is clear to a large number of you, and therefore I shall not take time to go into details. However, I have one of the games with me which any one who wishes may examine.

With every method which we use to visualize, the aim of each recitation is to leave the class with a clearer knowledge of the Latin language and conscious of greater power to use it, but by seemingly putting the emphasis on the subject matter, the interest of the students is maintained, and through the "by-products," Latin becomes one of the broadest and most practical courses, developing the imagination and sympathy; affording means of character study, as well as giving a clear picture of one of the greatest nations at the height of its power.

### Discussion

Teacher: I have a question, not very closely related to the papers, but in connection with the work of Caesar. I heard a suggestion this morning by a girl who had visited a very successful teacher. She reads the advance lesson to the pupils. I should like to know if anyone has tried it and why.

Teacher: I have done it for two years and find that the Caesar class does very much better.

Mr. Canter thought it was an excellent method if you had the attention of every one in the class, and the pupils do not copy it. The teacher using the method said she had the attention of the whole class.

Another teacher tried the method and found that the bright pupils resented it. They wanted to show what they could do.

T: That doesn't give them a chance to work out the thought and to think for themselves; there isn't any inspiration in it for the pupils.

One teacher stated that she divided the class, after she could not get results. The divisions are now smaller and more informal and she gets a better response. Make the class informal and make them feel that there is thought in the passage and they must get it out.

T: Is this translation or an analysis of the construction?

T: My understanding is that it was translation.

T: I think it should rather be an analysis of the construction.

T: Let the pupils have an interest in working out what is coming, as in a story. I have 51 in Caesar and the pupils are enjoying it. One section presented a petition asking that they be allowed the privilege of reciting after school Friday evening in order to get over more ground.

T: Interesting experiment: In one section we are using Latin stories the first semester, in the other, Caesar. At least 50% of our students are in Latin. Great interest is shown.

T: I had a class from a Junior High School poorly prepared. I tried Fabulae Faciles. I had them read that for five weeks and then put them into Caesar. They did not read the amount required in Caesar, but in the middle of the year, when they had completed their second year, they demanded a Cicero class at that time. That class is very good. They insisted on a class in Cicero.

T: Something touched upon in Miss Buhrman's paper about the child not feeling that Caesar was great: If Shakespeare's "Julius Caesar" is studied in second year English it will be a great help in correlation. I have found a great deal more interest when pupils are doing "Julius Caesar" in English along with the Caesar class in Latin, because they learn to appreciate him as a man.

Canter: The difficulty comes because of the difference in methods of presentation then and now. It should also be explained that Caesar was writing a political apology and had to justify his actions in Gaul.

T: We have a problem that troubles us a great deal. In the first year we use the "New Gradatim," also at the beginning of the second year, and then go on to Caesar. They read the "New Gradatim" with considerable interest, and many of those who are weak in grammar enjoy the story. In the second year we have great difficulty, because we get pupils from two-year high schools, and come into Caesar classes, and there is a noticeable gap in their preparation. Sometimes they claim to have had Caesar, and then they cannot read, do not know forms and vocabulary. They come in with credit for one year's work and cannot do the second year work. How many others have the same difficulty?

T: I have only two from other schools and they are well prepared. I am using Nutting's Latin Reader in the latter part of the first year and the beginning of the second.

Canter: That is in line with Prof. Morrison's idea. There should be some easy reading, to give the student a sense of mastery. Without that, he gets discouraged.

T: I am using Beeson & Scott's Second Year Latin book, and there is a lot of easy reading at the beginning. One boy who was conditioned found the stories very interesting. If you have a transition, the pupils take up Caesar with more enthusiasm.

T: I am using what I consider an improvement over B. & S. It is Sanford & Scott's Second Year Latin. It contains three myths. The pupils are interested in them. Second year pupils are encouraged to take Ancient History, which follows along parallel with that. When they reach the history of Rome, they have reached the material in the Latin class treating with Roman History. They are very interested, so that they often read ahead three or four chapters, which is unusual in the second year Latin classes.

T: (from Palestine): Use of Latin plays: I have never used them before any audience except the Latin class which read and worked them out. They did not have time to learn the Latin, but read it. They read it over so many times that it was almost as good as learning it. They enjoyed it, and would rig up a setting for each scene. For instance, the departure of the Helvetians.

T: I find that Miss Paxson's play "A Roman Wedding" is very interesting not only to the pupils but to the people of the community.

Canter: What is the most important thing in second year Latin? What is the thing we are driving at?

Carr: My personal belief is that we ought to swing more to valuable content. Caesar should be held until the fourth semester. All the supplementary help possible should be given so that they can begin to look in on Roman civilization and what it means to us—history and modern problems. Caesar offers some valuable things. Usually we haven't time and go too fast. I think we let down on everything in the second year, because we haven't time. In English vocabulary, nearly everybody drops out in the second year. We think we have to place our emphasis somewhere else. Nobody ought to try to read four books of Caesar in second year.

Miss Brady: I haven't had much experience. You are so apt to discourage the pupils if you drill too much on forms. How far should we go into syntax after the sense of the passage has been gained?

T: I don't believe we can get the sense without understanding the syntax. Some pupils do not know English grammar, and I give them grammar lessons outside of school.

T: In teaching the complementary infinitive in first year, would you have them learn the rule, or what? The term seemed to confuse them.

Canter: I would not bother about the intricacies of syntax if they get the sense. Don't let the name keep them from seeing the principle involved. Make up a list of the verbs requiring the complementary infinitive, in class.

The meeting then adjourned.

H. C. Thory,
Sec'y for Groups 1 and 3.

### Afternoon Session

The afternoon session with Prof. Oldfather presiding first heard reports from the group secretaries, Miss Maxey and Mr. Thory, on the morning discussion. These were followed by the principal speaker of the afternoon, Mr. W. L. Carr, Special Investigator appointed by the General Education Board to make a national classical survey. At the conclusion of his address Mr. Carr secured the addresses and offers of assistance of all present, thus enlisting their cooperation in the most vital project ever launched in connection with classical teaching in this country.

Following is Mr. Carr's address:

## Progress of the Classical Investigation

H. L. Carr, Oberlin, Ohio

I am glad to have this opportunity of reporting to this representative group of Latin teachers the progress so far made in the Classical Investigation which has been undertaken by a Committee of the American Classical League with the financial support of the General Education Board. The Committee entrusted with the conduct of the investigation has prepared a preliminary report which outlines in tentative form the plan which it proposes to follow in the comprehensive survey of the aims, methods and results of the teaching of Latin and Greek in the secondary schools of the United States. Sections A and B of this report were published in the Classical Journal for October, and Section C and an Appendix will appear in the December number of the Journal.

In preparing this plan and in the progress so far made in putting the plan into operation, the Committee has sought and obtained the most enthusiastic support of departments of education and bureaus of research throughout the country. Professors and students of psychology and of education, as well as workers in the departments of English and of the modern languages, have found many phases of the investigation which command their interest and their cooperation. Equally enthusiastic has been the response from teachers, principals and other school officers in whose schools the testing program has already been begun and which, continuing this year and next, will furnish in large part the factual foundation on which is to be constructed a program of recommendations for making Latin and Greek more effective and more serviceable instruments in secondary education. And the purpose of the investigation, as announced from the first, is the preparation of a constructive program of recommendations for improvement in the teaching of Latin and Greek in the secondary schools of the United States. Also it was agreed from the first that an investigation into the present status of Latin and Greek including a careful study of present methods and an extensive measurement of present results should precede any attempt at formulating a constructive program. As I have said above the Committee in charge of the investigations is still further convinced of the soundness of this method of procedure by the unanimous approval of the educational public.

Two letters recently received illustrate the spirit of this response. The first comes from a State Commissioner of Education, and reads as follows:

"I believe that you get at the thing in the right way and have put the question beyond the realm of personal opinion. We never get anywhere by the method of 'You lie, You lie back'. If the Latin people had shown the same wisdom previously, I do not think there would have been so much talk about the decadence of Latin, and I am inclined to think that research work like yours and a country-wide investigation like that conducted by your committee will greatly help to strengthen the position of Latin."

The other letter is from an excellently-trained and highly successful teacher of secondary Latin. The writer says:

"Here's hoping your committee can demonstrate to the world what Latin can do, though I confess that I am weary of 'Tests and Measurements' and long to teach for the joy of teaching, and not to be quite so conscious of the mechanics of my work."

You recognize a common element in these two letters, though they represent quite different points of view. Both writers believe in Latin as an effective instrument in secondary education, and both express the hope that the general result of the classical investigation will be the strengthening of the position of Latin. I'm sure all here share that hope and that belief. I'm equally sure that most of us have moments when we too "long to teach for the joy of teaching, and not to be quite so conscious of the mechanics of our work." However, none

of us is so far removed from schools of education and bureaus of educational measurements as not to realize that standards and aims less subjective, not to say less "unsocial," than "joy of teaching" must be taken into account if our educational product is to receive either official or popular approval. Furthermore, in these days of fierce competition among school subjects, the teacher of Latin is forced to make his teaching as socially efficient as it is possible to make it, if he wishes to keep his subject in its present position in the school curriculum. And in order to be sure that Latin or *any* of the older subjects in the curriculum is being made socially efficient, it is necessary every generation or so to examine anew the aims, content, methods and educational results of that subject.

Let me say, again, that the purpose of the classical investigation is to discover the present *facts*, about the teaching of Latin and Greek, with a view to improving future conditions and results. It is distinctly *not* the purpose of the investigation to present arguments for a magical value of Latin, regardless of the content of the course and the methods employed in teaching the subject. The committee found it difficult in one or two cases to convince certain sceptical educationalists that the Committee is sincere in this matter. I suspect that some of them still believe that a committee composed so largely of teachers of the Classics cannot be sufficiently unbiased to conduct a real investigation; in short, that this is not going to be a genuine investigation, but a "whitewash."

In general, however, our program has met with the heartiest approval and most generous promises of cooperation, from even those who have long been regarded as enemies of the Classics, or at best, unfriendly neutrals. For example, to quote again, a prominent director of educational research writes fully approving the plan adopted, and adds:

"It is time we stopped arguing about things which nobody can prove and turned our attention to finding out the facts in the premises."

That is a good motto for everyone participating in the investigation. Let us find out the *facts*. Emotional outbursts and rhetorical over-statements of our case will not convince or silence our equally emotional, though perhaps less rhetorical, opponents.

Many of us may believe with President Hadley that Latin and Greek were the most important instruments in our education; while others along with President Eliot rise to testify that chemistry made them what they are. Perhaps it did! However, what Latin did or did not do for President Hadley or President Eliot fifty or sixty years ago, or any of us much more recently, is of less importance to us here today than the question: How can one year or two years or eight years of Latin be made an economically efficient instrument in the education of the Hadleys and the Eliots and the Joneses and the Olsons and the Hooligans and Antoninis and the Lewandowskis who entered our own junior and senior high schools this last September.

Much more pertinent too than either President Hadley's or President Eliot's prejudiced testimony is the following paragraph from Mr. Flexner's now famous monograph "A Modern School:"

"It is therefore useless to inquire whether a knowledge of Latin and mathematics is valuable, *because pupils do not get it;* and it is equally beside the mark to ask whether the effort to obtain this knowledge is a valuable *discipline*, since failure is so widespread that the only habits acquired through failing to learn Latin or algebra are habits of slipshod work, of guessing, and of mechanical applications of formulae, not themselves understood."

That statement was and is a direct challenge. It is most important, if true. It *is* either true or false or partly true, and Mr. Flexner's General Education Board is now putting up the money to enable our investigating committee to find out whether it is true or false and if true to what extent. Mr. Flexner's statement, you may remember, was based on statistics which showed a very high percentage of failure on the part of Latin pupils in a special College Entrance

Board Examination. It is true that these statistics were at once shown to have been misinterpreted. Mr. Flexner long ago admitted that his text was wrong, but still insists that his sermon was right!

Another very definite challenge is to be found in the widely-distributed and oft-quoted report of President Brown's investigation of the results obtained in the teaching of Latin in the schools of New Hampshire. It is true that President Brown tested only one of many possible objectives in the teaching of Latin, and that the adequacy of the tests which he used may be questioned. But it *was* an appeal to facts; and the first step in framing an answer to such criticisms as those of Mr. Flexner and President Brown is a thorough-going investigation which will discover the *real* facts by the extensive use of the best educational measurements that can be devised.

Not unmindful of much that can be said and has been said about the impossibility of measuring the immeasurable[1] the Committee has in its measurement program unreservedly adopted the methods approved by advocates of educational measurements, whose fundamental tenet is that whatever exists at all exists in some amount, and that this amount can be measured, if only we have the wit and patience to devise suitable instruments. Of course, it is recognized that an educational product is commonly a complex of many sorts of things, and that what one actually does, in dealing with a product of this sort, is not to make a complete measurement but only to measure the amount of some *phase* of the product which for the purpose of measurement is abstracted from the complex. Every such measurement is, therefore, limited in character. No one set of measurements tells the whole story. This fact is not always understood by those who criticize educational tests and scales on the very ground that they are limited in their nature. On the other hand, the full significance of this fact, and its bearing on the interpretation of results, has not always been kept clearly in mind by users of the method. Fortunately the pioneer days of educational measurement (with disparagement of the method on the one hand and "bumptiousness" on the other) have passed, and the essential reliability of the method, as well as its limitations and prerequisites, are pretty generally recognized.

In testing the educational results of any type of training, it is necessary to eliminate as many as possible of the other elements which may have entered into those results. If, for example, one wishes to measure the effect of the study of Latin on growth in English vocabulary, one must eliminate difference in initial ability. This may be done by comparing the net gain made by a Latin-trained group with the net gain made by a group of non-Latin pupils whose initial ability was equal or was equated, and whose training was otherwise the same as that of the Latin group. Only the *excess* growth in vocabulary made by the Latin group may be claimed as due to the training and knowledge received in the study of Latin.

One method of selecting two such groups with equal or equated initial ability is to pair the pupils on the basis of grades made by them in their other school subjects. This was the method used by Mr. Perkins in his experiments in the Dorchester High School.[2] Another method is to make use of mental ability tests, as Mr. Otis did in his recent experiments in the White Plains, New York, High School.

A still more desirable method, it has seemed to our Committee, is to run initial tests in any special ability, growth in which is to be measured. Such preliminary special ability tests, as well as classifications based on school grades or mental ability scores, have in almost every instance shown that the Latin pupils are a superior or selected group to begin with. Therefore, to assume equal initial ability for Latin and non-Latin pupils, as is often done, is to invalidate the results of any comparisons made later in the course. Some otherwise very

[1]For example, Showerman, "Measuring the Immeasurable," The Nation, July 5, 1919.
[2]Perkins, "Latin as a Vocational Study," *Classical Journal*, 10:7-16, October, 1914.

excellent studies in this field are subject to this criticism. For example, Starch's studies published in the School Review in December, 1915, and April, 1917, under the title "Some Experimental Data on the Value of Studying Foreign Language" did not take into account the initial general or special ability of the students tested. Our Committee, in its entire test program, wherever a comparison of Latin and non-Latin pupils is involved, has adopted the policy of equating the initial ability of the groups compared by means of general intelligence tests, or special ability tests, or both. Naturally, a direct comparison of the *growth* made by Latin and by non-Latin pupils enters into the measurements of attainment in all of the various objectives in the teaching of Latin except those which involve direct power over the Latin language itself.

The question at once arises: What are these various objectives growth in the attainment of which is to be measured? As a first step in getting the measurement program under way, the Committee has made up a tentative list of all the values commonly claimed for the study of secondary Latin. The list in its present form is to be found in Section B of the Preliminary Report referred to above. These specific objectives, 26 in number as now stated, fall roughly into four groups. Objects 1-3 involve the direct instrumental uses of Latin as a language; objectives 4-13 have to do with the application to English and to other subjects of the facts learned in Latin; objectives 14-23 involve informational and cultural values; and objectives 24-26 have to do with the spread of improved efficiency and other disciplinary values.

The Committee does not claim that this published list of objectives is now complete or in satisfactory form. Any one who reads the list is earnestly invited to write to the Committee and to suggest any additions or changes in statement which he would like to have made. On the other hand the Committee does not mean to imply that all of these objectives are of equal educational value if attached; nor does it claim in advance that they are being attained or attainable. In other words, these objectives are set up as mere hypotheses to be proved or disproved or modified as the investigation proceeds.

The Committee proposes, with the aid of all available resources for research, to ask these four questions about *each one* of these proposed objectives:

1. For what Latin pupils and for what proportion of Latin pupils is this a legitimate objective?

2. What proportion of pupils studying Latin attain this objective and to what extent?

3. What content and methods seem to have been most effective in attaining this objective?

4. What constructive measures, as to content, method and preparation of teachers, should be taken to improve results?

The answer to the first question. "For what Latin pupils and for what proportion of Latin pupils is this a legitimate objective?", will probably vary greatly for the different objectives in the list. The relative value of these objectives will depend largely on the school community served, i.e., on the relative likelihood of their entering into the life-experience of the pupils. Certain objectives, such as that relating to a better understanding and use of English words derived from Latin, are clearly of great value to all boys and girls who continue their formal or informal education beyond the elementary stage. To take this one objective as an example, a definite answer to Question 1 must await:

(1) A study to determine what proportion of unfamiliar words met by pupils after entering high school is of Latin origin.

(2) An inquiry as to what Latin pupil and what proportion of Latin pupils will have occasion to understand or use these words.

Similar studies and inquiries are connected with nearly all of the objectives listed. To complete these studies and inquiries will require the services of a

great many graduate students now working in the various universities and the voluntary assistance of hundreds of Latin teachers in the field.

As has been said above, the answer to Question 2 ("What proportion of pupils studying Latin attain this objective, and to what extent?") is the vital thing in the case of each objective in the list; for it is useless for one to show that a given objective, if attained, would be of high educational value for a large proportion of the pupils, unless he can also meet the challenge quoted above, and show that pupils *do* attain it to a measurable degree. The only adequate answer to such a challenge is a quantitative answer, based on the extensive use of tests and measurements for each of the objectives listed. Only a few standard tests are now available for the Committee's measurement program, as proposed, and the construction of standard tests will require the assistance of a good many graduate students working in the field of educational measurements under competent direction.

Then, of course, after the tests are constructed we must test thousands of pupils in hundreds of schools in all parts of the country, score their papers, and tabulate and interpret results.

Work in all these lines has already begun. How far we shall be able to go in the two years allotted to the investigation will depend on the amount of co-operation which the Committee receives from all sources.

The test program is already under way. Some 164 schools in 40 different states ran in September one or more of the five initial tests recommended by the Committee. Two of these five tests are designed to measure ability in English vocabulary, one to measure ability in functional and formal English grammar, one ability in reading English, and the fifth ability in English composition. It is planned to run similar tests in these same schools and with these same pupils at the end of this first year, and again at the end of the second year, perhaps at the end of each semester. Both Latin and non-Latin pupils are to be tested, and their relative growth in these various abilities will be compared. Tests in English spelling are now being prepared, and will be available, it is hoped, for the opening of the second semester. Also it is planned to begin a new series of tests at the opening of the second semester to measure the relative growth of Latin and non-Latin pupils in ability to master the Romance languages.

Toward the end of the present school year, standard tests in ability within the Latin language itself will be ready for use. These will include tests in ability to read and understand Latin, to translate Latin into English, to write Latin, and also ability in the various elements of the language, that is, in vocabulary, grammar and syntax. Other tests are in preparation dealing with the informational, cultural and disciplinary values named in the list.

One or more of these tests should be run in a very large number of widely distributed schools in order that the results may be truly representative of conditions throughout the country. A few schools of various types should run all of them! Otherwise we shall be in danger of setting up as a standard of attainment in any one or two objectives the results secured in schools where these objectives are emphasized to the neglect of other important objectives.

The cooperation of principals, superintendents and supervisors of tests in the various school systems is solicited to this end. Also the patience and precious class time of hundreds of teachers throughout the country. The scoring of tests and the tabulating and interpretation of results will be directed by men whose standing and impartiality are beyond question.

Side by side with the testing program just described, the Committee is planning to conduct a number of pedagogical experiments in which parallel classes composed of approximately equal initial ability will be taught by radically different methods, and the results of these methods carefully measured. For example, the relative growth in passive English vocabulary will be measured through a period of two years for four groups, as follows:

(1) A class of pupils in Latin in which no effort is made to teach derivatives.

(2) A class of pupils in Latin in which great emphasis is placed on the teaching of derivatives.

(3) A class of non-Latin pupils in English in which no special effort is made to teach the derivations of words.

(4) A class of non-Latin pupils in English in which there is intensive work in English etymology.

As an accompaniment to the testing and experiment program, the fullest possible answers to Question 3 are to be sought. On the basis of the results of the tests and of information about content and method, there will be formulated the final constructive program, the real object of the whole investigation.

The results of all these studies and tests, and the final recommendations as to content, method and preparation of teachers will ultimately be made available for every teacher of Latin in the United States.

The speaker then gave some detailed information about individuals, groups and institutions who were already engaged in carrying on certain phases of the investigation, and appealed for further cooperation from teachers in the field, and especially from those who during the next two years expect to be engaged in graduate study.

The next speaker was J. Calvin Hanna, State Supervisor of High Schools who considered the future of high school Latin chiefly as regards the small school, where conditions are very unstable owing to the constant shifting of principals. He would like to see the first and second year of Latin changed to meet the needs of these schools and for the same reason more elementary Latin courses instituted in the University. He also favored a minimum of syntax.

The afternoon session was concluded by several short talks given by teachers on experiments they had tried with success in the class room. Miss Hazel F. Linkfield of Elgin discussed methods she used to teach vocabulary and syntax in beginning Latin.

Miss Bessie M. Darby of Quincy, under the title Cum Movēmus, Commoveāmus gave a very stimulating talk outlined as follows:

Cum Movēmus, Commoveāmus

The Latin Department is often accused of being exclusive—even teachers of that so called, "Dead Language" are sometimes looked upon as different and rather to be set apart from others of the teaching profession. As a result of such impressions and feelings, we have endeavored to make the Latin Department just as live and necessary to the school as the Athletic or Dramatic Dept.

I A We first planned to present the school with a pennant of the school motto—"Cum Movēmus Commoveāmus"—The Cicero class purchased the blue and white felt and had the following departments moving with it.

1. The Art Dept. planned the size and shape of the lettering.

2. The Mech. Drawing Department drafted the lettering.

3. The Domestic Art Department made the pennant.

Then the Cicero class made the presentation speech in the weekly assembly.

B Results

1. Many teachers, pupils and visitors have inquired into its meaning.

2. At the foot-ball and basket-ball banquets this motto is given a conspicuous place.

II A This slogan was also worked out in a practical way when "The Romance School" was given in the assembly.

1. The cast was chosen from Latin Classes.

2. The Manual Training Department made the scrolls.

3. The Domestic Art Department assisted in making the robes.

a. These robes were made by using sheets with the colored bands sewed on.

b. The slaves robes were made of sacking.

4. The English Department trained a lad from the Latin class in giving a very full synopsis of the play and the leading facts about the characters.

5. The Music Department trained a chorus of girls who sang "Guadeamus Igitm."

B. Results

1. The audience enjoyed the play so much that we have been asked to repeat it.

2. It also created a wide discussion among patrons.

3. The teachers' dread and fear of attempting to give a play to an inappreciative audience was entirely removed.

III. Correlation between the Sophomore English and Second Year Latin is very close in our school. The teachers in these classes plan to study parts of speech, sentence structure and construction at the same time. It has proven a most helpful plan. We are quite hopeful that the day is not far distant when a larger per cent of our students will be moving in the Latin Department and helping to convince people that we are most human in our interests.

After Miss Darby and also arousing much interest, Miss Ethel M. McBroom of Catlin Township High School gave an excellent paper on the use of Latin games which is printed below. The section then adjourned.

## The Use of Latin Games in the Teaching of Latin

Ethel M. McBroom, Catlin

The last few years we have been discussing the vitalized school and the "work through play" methods. The play-instinct is strong in a child—work to him is drudgery. Have you ever noticed how hard a child works—perhaps all day long—raking leaves to build a leaf house, or tugging the logs to build an "Indian fort?" Or in winter, does he mind the cold when making a snow man? That is play, but when the boy's mother asks him to rake the leaves or shovel the snow, that is quite a different question—that is work.

It is the duty of every teacher to so vitalize the work that school is life to her pupils, and it is my purpose to discuss one phase in vitalizing Latin so as to make the study of this subject seem a privilege and a pleasure—not a requirement and a burden—that is, by the use of Latin games.

In first year work particularly, Latin does seem a sort of drudgery in having to learn all those dreadful declensions, conjugations, vocabularies and syntax, and so little real enjoyment can be obtained from first year work that there is very little pleasure in it unless methods are introduced to make Latin *live*. Interest and enthusiasm are always created when there is a little friendly rivalry. There is always a certain pride in having one's own side win.

When we hear the term "Latin Games," there is the mental picture of two or three different card games such as "The Game of the Latin Verb" or "The Game of the Latin Noun" which may be obtained from the Latin Game Companies. These are admirable, and serve to fix in the pupils' minds the declension to which a noun belongs, or the conjugation of a verb. At the very beginning of the year, however, these are impractical, because the students' vocabulary is too limited. Then make games similar to these, using the words already studied, and as the pupils advance, add new words, until the other cards can be used. Sometimes I have an old-fashioned "Spell-Down" for a vocabulary review.

The best game I have ever used is a "Latin Base Ball Game" which is played as nearly in accordance with Base Ball rules as is practical. Two captains are chosen by the class, and each captain chooses his team and picks his line-up—pitcher, catcher—basemen and fielders.

1. Each captain manages his own team, and the team which succeeds in doing the better "team work" is sure to win.

2. The class room constitutes the "diamond."

3. The umpire is the teacher, or anyone who is qualified for this position.

4. The "balls" are Latin questions compiled by the different players. All questions are "Fair Balls" (since the questions have already been looked over by the teacher—to avoid disputes.) These questions must have definite answers (to avoid disputes.) "Foul balls," are questions answered partially or incorrectly by the batter. The rule for "outs," scores, etc., is practically the same as in base ball.

This is a splendid review, and I have used this twice this year with very good results. In this game rules of syntax are mastered that never would be otherwise, but since it is *play*, there is a great deal of enthusiasm, more effort, and better results. At the close of the contests, the losing team gave a party for the winners at which Latin games were played progressively, and a new kind of Spelling Contest followed.

"New Spelling Contest."—I appointed two captains and these two chose sides as for an old-fashioned "spell down." They lined up in two rows facing each other. Then each player was given two letters of the alphabet (such as A or L, etc.) or more, if necessary (so that all the letters be given out). These letters were printed on cardboard about five inches square. When I pronounced

the word in English, those holding the letters necessary to spell the word in Latin, stepped forward, again forming two lines, and put those letters together to form the word. The side spelling the word first was given a point.

A contest between first and second year pupils, or even third and fourth year people arouses considerable interest, class spirit and enthusiasm. If this is based upon a definite assignment in grammar, you will find it an excellent review. No pushing or pulling will be required on the part of the teacher—just directing it.

As far as my experience goes, I have found that pupils will work twice as hard on such contests as these and never mind it in the least. Moreover, the interest manifested by the students often carries over into the homes, and the Latin Base Ball contest or the Latin Spell Down provides a subject for conversation at the evening meal.

## 5. COMMERCIAL SECTION

This section was called to order by the Chairman, S. B. Irish, of Evanston. The addresses of the morning were general in character. *Commercial Education from an Administrative Viewpoint* was discussed by Superintendent L. W. Smith of Joliet Township High School. No copy of this address was available.

Professor H. T. Scoville, of the University, spoke as follows on **The High School Curriculum in Commercial Subjects from the Viewpoint of a Faculty Member of the College of Commerce:**

It was with a considerable sense of pride and duty that I accepted the invitation of your Chairman, Mr. Irish, to address you today on the topic designated in the program. It appealed to my pride to be asked to talk on such a long subject before a group of this size whose members are so intimately associated with the teaching and development of high school commercial subjects. I recognized a duty in this opportunity to participate in the conference of the commercial section because there are so many important problems which require the consideration of this section. I feel that the College of Commerce of the University of Illinois should be ready to lend its support, and to offer such advice and inspiration as it may be able to give to the problems of high school commercial education.

Some of the older sections such as classics, English, mathematics, and modern languages have passed through some of their most difficult periods of construction, while the commercial section is just approaching them. We are approaching them in a careful, conscientious manner, however. As I have attended the meetings and observed the undivided interest of the members and participated in the discussions of this section during the last five or six years, I have been impressed with the conservatism and the desire to frame policies that would harmonize with modern conditions and the best in educational ideas.

This section has problems which cannot be compared with those of the older sections. Our commercial courses in high school are affected by the financial or monetary interests of the taxpayers while the older courses are not so affected. It is not sufficient for us to decide which arrangement of courses and methods of teaching are the best from a pedagogical point of view. We must also listen to some extent, probably unfortunately, to the suggestions of a well meaning school board, influenced by the practical dollars and cents point of view of numerous taxpayers of the respective districts. These suggestions lead to the complication of commercial teaching problems. They create a tendency to place the so-called practical or vocational subjects as stenography, typewriting, bookkeeping, and salesmanship early in the curriculum so that a student may leave high school at the end of one or two years prepared to earn a livelihood. Pedagogically most of

us would probably place these subjects later in the curriculum. At times there is a tendency to have the contents of courses modified so as to give a maximum of practical elements with a minimum of underlying principles. Such problems are met by most high school commercial teachers in a generous spirit of cooperation. They are willing to do what seems best for the community, even if it might be shown by proper methods, involving considerable time and energy, that what seems best even to a biased majority, is not necessarily always the best.

However, such conditions exist and this is not the time to present remedies. We all recognize that there is still the dual purpose to be served by a high school commercial curriculum. It must prepare students for bread and butter jobs at the end of two, three or four years in high school, and must be so arranged that students who receive the high school diploma may be admitted to the State University or similar institutions without being required to satisfy many additional entrance requirements.

Although there are a few minor elements that arise in the curriculums of some high schools, I feel that the conditions as they exist in most of the accredited high schools of Illinois are recognized very liberally by the University of Illinois. The University recognizes the following subjects for entrance:

| | |
|---|---|
| Bookkeeping | 1 unit |
| Stenography and Typewriting (neither to be counted separately) | 2 units |
| Commercial Arithmetic | ½ unit |
| Business Law | ½ unit |
| Commercial Geography | 1 unit |
| Economics | 1 unit |
| | 6 units |

This does not mean that one student could apply all of these subjects for entrance credit. He could, however, apply 5 of the six units if they were properly chosen. Presented in tabular form the possibilities of applying a maximum of commercial subjects for entrance into the several Colleges of the University of Illinois are shown in this diagram:

| Subjects | Possible units for entrance into College of Commerce, or | | |
|---|---|---|---|
| | Engineering | Agriculture | Liberal Arts and Sciences |
| *Required:* | | | |
| English | 3 | 3 | 3 |
| Algebra | 1½ | 1 | 1 |
| Geometry | 1½ | 1 | 1 |
| Science | 1 | 2 | 1 |
| Language | | | 2 |
| | 7 | 7 | 8 |
| *Optional:* | | | |
| 1. Commerce, | | | |
| (a) Bookkeeping 1 | | | |
| (b) Business Law ½ | | | |
| (c) Com'l Arith. ½ | | | |
| (d) Stenography and Typewriting 2 | | | |
| 4 | | | |

| | | | |
|---|---|---|---|
| Any 3 may be applied from 4 units above..... | 3 | 3 | 3 |
| (e) Economics . . . . . | 1 | 1 | 1 |
| (f) Commercial Geography .... | 1 | 1 | 1 |
| 2. Non-Commerce: Selections from the following: | | | |
| (a) Science . . . . . | | | |
| (b) Language . . . . . | | | |
| (c) History . . . . . | 3 | 3 | 2 |
| (d) Mathematics . . . . . | | | |
| (e) Civics . . . . . | | | |
| Total required for entrance..... | 15 | 15 | 15 |

The table presented for your consideration shows that a student may apply toward entrance in any of the so-called undergraduate colleges of the University of Illinois, five units of commercial subjects. After he has marshalled for presentation the 7 or 8 units required in English, mathematics, science, and language, he may present without restriction one unit each in economics and commercial geography, and in addition three units selected from a possible total of four units in bookkeeping, business law, commercial arithmetic, and stenography and typewriting. He would then present two or three additional units, as the case might be, selected from science, language, history, mathematics, or civics.

Thus a student may present commercial subjects to an amount equal to as much as ⅓ of the total of 15 units required for entrance into the University of Illinois. Few high schools offer commercial subjects aggregating more than 6½ units. It seems, therefore, that a student in high school taking the commercial curriculum may, with only slight assistance from the faculty, arrange his schedule in such a way as to apply nearly all of his units toward entrance into the University of Illinois. If he wishes to enter the College of Engineering his 7 required subjects should contain more mathematics but less science than for the Agricultural College and less language than for the Liberal Arts College. If his units presented for entrance permit him to register in any one of the other three colleges mentioned he may register in the College of Commerce. If he presents no commerce subjects for entrance he would present more language, history, mathematics, or science.

Considering these factors, a professor in a College of Commerce should not criticize very severely the commercial curriculum of the average accredited high school. As a general thing such professors think that the commercial curriculum in high schools serves its dual purpose adequately. This is not admitting, however, that students come to college with a good commercial training or even with a good general training. They have enough credits to enter, but in too many cases they apparently have not deserved the credit. The average commerce professor in a College of Commerce would probably prefer to have his freshman students enter his classes without any commerce entrance credits if he could be sure that they had been taught to think in high school, and to use well the general ideas obtained in non-commerce courses.

The next topic discussed was **The Possible Breadth of a Commercial Education,** by Miss Charlotte van der Veen, Pontiac, Ill., who spoke as follows:

The departments of commerce in our universities are turning out great numbers of young people educated along the lines of modern business. Some of these young people are turning their attention towards teaching, and our high schools in many places are availing themselves of these teachers with their expert training.

There is still, however, a serious lack of teachers whose training in the art of teaching makes them as expert in pedagogy as they are in the knowledge of the needs of present-day business. It is much easier to find history and English and science teachers who have been carefully trained to teach than it is to find scientifically skillful teachers for the commercial department. To some of us who have had the supervision of commercial departments it has seemed when needing teachers a simpler matter to take young people with pedagogical training and with a foundation of broad culture and teach them the rudiments of shorthand and typing and bookkeeping than it was to take the output of commercial schools and try to teach them the complex art of teaching. Neither thing is the ideal thing to be forced to do. Less and less will it be necessary, we trust.

But this paper is not to discuss the qualifications of commercial teachers, except incidentally. It is to discuss the field of work to which the commercial teacher may feel himself called. One has a shrewd suspicion that if the field were more clearly defined and were broad enough to be alluring, there would be a larger number of young people taking the commercial courses in universities with the definite aim of teaching in that department in our high schools. If that aim were early defined in the mind of the student, he would fit himself for his chosen work by taking units of work in education, just as the prospective teachers who fit themselves for work in other departments of the high schools do so deliberately and successfully.

There will also have to prevail a different standard in the minds of supervisors of school systems, so that they will not hire teachers for the commercial department that are not so well fitted as are the teachers in other departments. There will come a day when the teachers of vocational subjects will not receive the very doubtful favor of certification on lower requirements than those demanded of other teachers.

How broad is the field of a commercial education? Is it not almost axiomatic that it is as broad as business life itself? And how broad is that? In the complex interrelationships of our modern life, the business man of today feels that business life is, as it were, a cross section of all life of the day. He feels that he ought to know life in all the strata of society, in all parts of the world, and to a large degree in all the ages of history.

This fact is brought home to one in many ways. Perhaps in no way is it more forcibly illustrated than in the work of the skilled advertiser of the day. It takes a liberal education to read appreciatively the advertising done by some of the best firms, and one realizes that it could not have been written by anyone who knew nothing beyond the goods he is trying to make known. History, mythology, music, art, the languages, the drama, science, all are levied upon to make vivid and appealing the descriptive work. Logic, psychology, argumentation, all are used in making the selling appeal.

Again, one is led to realize this truth of the many contacts between business life and all other life by reading the great business magazines of the day. The best of them contain articles that lead one into many lines of endeavor, and that would be of interest to the teachers of many branches. One is sure that that fact will be more and more true of them as the vision of the real sphere of business grows upon their editors.

The fact is also brought home to a commercial teacher whenever he attends any general conference of teachers. In whose special branch is he not interested, and to which one is he not mentally correlating his work as he listens? To what teacher of English is the flexible use of the mother tongue a matter of greater moment than it is to him? To what history teacher is the unfolding panorama of the centuries more vital than to him? How much it means to him that there shall be read aright in history the relations of cause and effect as they have shaped the endeavors of men. To which of the sciences can he be unresponsive in his interests? Who will make more practical use than he of the study of races

and tongues? Who ought to have a broader and keener vision for the events of the day? At every point he should be awake, alert, interested, for it is all part of his work.

In small high schools where of necessity the teacher of commercial branches, if he be fully certificated, is often asked to teach in other departments, he is much impressed with the fact that no study that he is called upon to teach seems like foreign territory. It all correlates with his business branches, and he is happy when he chances to have some of his commercial pupils in his other classes, for he feels as though his work in each class shed light for those pupils upon their work in the other lines.

This line of thought leads one to pondering what can be done, then, in the way of broadening the commercial courses as they exist in our schools today and in correlating them with the work in other departments. Research in this direction is not strictly the province of this paper, but is at least in close relation to it.

An exhaustive study of what has already been done has been made by Dr. Leverett S. Lyon of Chicago University and was published by that university in September, 1919, as No. 12 of their educational monographs. Many of you may have contributed the data from which Dr. Lyon drew his deductions, and all of you would be interested in reading his article. It is good to see in tabulated form the facts he learned from his questionnaires, though the tables will present to most of us possibly little which we had not already learned by observation. His conclusions ought to be read and pondered by us all.

His first one, on the question of electives in the commercial course, I am tempted to share with you, so heartily do I agree with it. He says: "It may well be contended that the commercial student completing the technical work required of him may through the use of his free electives acquire a fairly broad training. There is no doubt that the opportunity of choosing subjects outside of his own field of work is often an advantage to the commercial student. But it is quite as likely that the free election so widely given works to the student's disadvantage. The miscellaneous and assorted fragments from which the student is permitted to choose is by no means certain to result in a well-balanced intellectual meal. There is reason to believe that much more satisfactory results could be obtained from a wisely directed scheme of requirements, having a predetermined object, and controlling in considerable measure the intellectual environment which surrounds the student. Free election of studies in the commercial course, as elsewhere, is quite consistent with our somewhat overworked policy of *laissez faire*. Under the influence of thinking in evolutionary terms *laissez faire* is, however, giving place to regulation, and under the influence of prescience in thought it is giving place to planning. More prescient elements are needed in training for business. But the real function of such elements can be accomplished only by definite requirements."

In many of the larger high schools, the commercial department is manned by well-equipped teachers only, and the social sciences and commercial geography are made a part of the commercial work. These schools often offer in the commercial department courses in English, in advertising, and in salesmanship. In such schools, correlation with the other departments is pretty well worked out, no doubt. Through the extension work of the stenographic and typing classes, there is certainly large opportunity for contact with the work of almost every other department.

But in smaller schools where the departments are not so clearly defined, where the exigencies of program making assign work rather promiscuously, and where there is a good deal of isolation in the work of the different teachers, it is surely a difficult practical problem to know how to be helpful in correlating one's commercial work with the work of other classes. However, that need not keep the commercial teacher from using the riches of the world of knowledge for his own pupils.

For an instance, special classes in English for the commercial pupils make the teaching of business letter writing a comparatively easy matter for the commercial department. The work can be most economically done so. But at any rate it can be done, with the cooperation of the English department or without it. It can be done in typing classes, in shorthand classes, in bookkeeping classes. It is largely an individual matter, after all. It is also true that if the teacher of bookkeeping may have the classes in commercial arithmetic under his own care, he can simplify matters considerably for the student of both branches. But if he may not, he can, if needs must be, teach rapid calculation in his bookkeeping classes and teach bank discount when his pupils have a note to discount.

The truth of it is, a commercial education, in fact, any kind of an education will not be much broader practically than the teacher that imparts it. It is still true to-day as in the days of Mark Hopkins that with certain teachers at one end of a log and with certain pupils at the other end of that log, you have an institution equipped to give a liberal education. My hope this morning is to lead us all to think about that great truth a bit seriously for a few minutes.

One need not stress here the fact that we ought to know well the subjects we are teaching. As a rule, the teachers of commercial branches are enthusiastic about their work. In no other group at this conference shall we find teachers more interested in the methods by which their subjects are to be taught. To have watched this field of specialization for twenty years is to realize that commercial teachers have been untiring and ardent in their efforts to perfect themselves technically. Many of them have not been content to learn the theory of the arts they teach, or has it seemed to them enough that they should learn how to present those subjects in the classroom. They have toiled early and late themselves to become skilled performers in those arts.

They have gone further. Because their subjects are comparatively new ones in the schools, commercial teachers have found an inviting field of labor in the development of those subjects and in the adjustment of them to the school demands and business demands of the day. They have spared no labor and are not appalled at the work still to be done. At the door of most of them, the charges of indolence and indifference cannot be laid. If teachers of subjects longer established have been able to pursue year in and year out conventional and unchanging methods, it has not been possible for commercial teachers so to take their ease.

But however proficient and enthusiastic we are, are we content to be known as people of only one line of interest and of one limited field of information? Is there any real reason why we should be thought of as outside of any circle whose cohesive bond is one of general culture? Why should not teachers and pupils in search of odd bits of information of the sort acquired only by wide reading and scholarly habits turn as naturally towards the commercial room as towards the desk of the English teacher or of the history teacher?

Do we at all question the fact that no man can know thoroughly and soundly any special field who does not know so well the whole field of knowledge that he can at least see clearly the relationship of his own corner to the whole domain? Is a fact really known that is not known in its relationships? Outside of the parables in Holy Writ, no parable has been to me more helpful than the old tale of the blind men and the elephant. Human knowledge has always failed right there, that "now we know in part."

It goes without saying that we shall always have to acknowledge that we know only in part, but we should never cease striving to enlarge the borders of that part. A complete mastery of our own particular field is, no doubt, all that most of us dare hope for in the line of intensive knowledge. Perhaps it is as well that we should be content with that, for the limitations of time, if nothing else, forbid our devoting ourselves to two life callings at once.

But an extensive knowledge that shall make us at least comfortably at home in other domains is a thing to be coveted. It can come only from a broad and

an incessant reading. Our aim should be to measure up to that definition of an educated person that says he is not one that knows everything, but rather one that knows where to find everything he may wish to know.

We must know all we can reasonably hope to know about the secrets of this round ball upon which we live, of the heavens above it, and of the waters under it. We must not waste time upon fruitless experiments that the race has already tried. We must know of those trials in the centuries gone and of their outcome. We must know about the minds and hearts and souls of the men and women whose wants the business world has set itself to supply. To these ends our reading should roam through the world of science, of history, of philosophy, even of mathematics.

We must not disdain the study of languages, for in language do men conserve the experiences of the race, and from the day of Babel until now commerce has known no more insuperable barrier than the strife of tongues. If you cannot talk to a man, you cannot do business with him.

We must also be keen and interested students of romance, music, art, drama, poetry, and religion, those great interpreters of the souls of men. The great hungers of the race are not, after all, for food and drink, and there are things men demand more imperatively than they do clothing and shelter.

The day must come, and let us be sure it will come when the commercial teachers in our schools will be people of a large and comprehensive culture in the very best use of that much abused term. One envies the young people entering our ranks in these wonderful days when the very air is full of an invitation to a large usefulness and a sacrificial serviceableness. If they could but catch the vision of all that there may be done in the school rooms of our high schools and colleges during this next quarter of a century, they would not be found dawdling about their task as some of us older teachers have let ourselves do. They would not be content to act simply as metronomes to typewriting classes and as dictaphones to shorthand classes. They would feel that they must stir up the sacred fire within the souls of those given them to touch. They would be willing to exercise a very stern self discipline that they might equip themselves in every way for their divine task.

How the world cries for men of vision, especially in its present sorry plight. How rare such men are. Our own profession has pitifully few of them, yet no profession, not even excepting the ministry, needs them more sorely. How long may one attend upon pedagogical vaporizing, and not once get a glimpse of the great goals towards which the race travels, not once be cheered by the "light which never was on land or sea," never once see spread out before one the great plan and its fair breadth and so sense the relationship to it of one's own little corner. It is by these visions that men must work and live. "Where there is no vision, the people perish." And the children? Led by those whose eyes have never been opened, "the poor young children, O my brothers," they have never even begun to live!

It is a most inadequate vision that thinks it might be possible to know a full-orbed mental development without a symmetrical spiritual growth. Too long and too fatally have we tried to divorce those two. They are one, and any attempt to separate them will always lead, as it always has led, to a fantastic and stunted mental life.

Awed and uplifted by the beauties of a starlit winter sky, most of us have been able to understand what Kepler meant when he said of his astronomical studies, "O God, I think Thy thoughts after Thee." We have not always realized as fully that any excursion into the world of science or of thought was as truly thinking God's thoughts after Him. We forget that to study history is to study the unfolding of His plans, that to study the hearts and souls of men is to study His image, that unfolding the laws of any science is but to unfold the plan by which He worked at the dawn of time. To forget all this, to be irreverently or

stupidly indifferent to it, is to attempt to solve a problem without the basic known quantity given.

Men listen to the experiments of an Arthur Nash and incredulously wonder how it happened. If their eyes were not holden and their hearts were not dull, they would realize that either the Golden Rule is the fundamental law of all business or it is not a rule for any conduct anywhere. Business is but the relationship of humans in mutual service. If Christianity does not fit such a relationship, it fits nothing. Most of us have stood up at some time and admitted before the world our belief that the Founder of our faith was the Creator of men. We read that "He knew all men, and required no evidence from anyone about human nature; well did He know what was in human nature." If it is true, then what bootless labor is ours when we hope to understand men and their interrelationships without knowledge of Him and His estimates of us and without consulting Him as to the laws by which we must deal with one another.

Friends and fellow students in an interesting world at an interesting time, has not a commercial education not only possible breadth, but also possible depth and height?

After a spirited discussion the section adjourned until 2 p. m. At that hour Mr. A. L. Nichols, Austin High School, Chicago, opened the program with a talk on **Some Visualizations of Commercial Geography,** illustrated with slides. An abstract of his presentation follows:

One morning some years ago a man was driving a truck and passed the corner of Adams and Jefferson Streets in Chicago. His truck was struck by a street-car and the driver was rendered unconscious. In this condition he was taken to the office of the nearest doctor, who happened to be John Dill Robertson, the present health commissioner of Chicago. Dr. Robertson operated on this man's skull and the man was restored to consciousness, but was utterly unable to remember any events that had happened that morning. About a month later another accident happened on the same corner; a girl was thrown from her bicycle by a passing street-car. This girl was also rendered unconscious and was taken to Dr. Robertson's office. The same kind of operation was performed and the girl was restored to consciousness, but was also utterly unable to recall any events that had happened that morning. Here was a medical problem: Were these two people going about their daily business in a trance at the time of the accidents? Dr. Robertson made an exhaustive study of the works on consciousness. The other day I heard him make this statement, which he said was his conviction as the result of his investigation: A mere impression is not recalled unless strengthened by some act of unconscious association or conscious effort to remember.

This statement is the principle underlying all attempts at visualization of education. Commercial Geography is rich in material with which to visualize the instruction. Instead of delivering a paper today, I have chosen to show a few pictures on the screen which I have used in my classes. I shall group the pictures under several headings which for convenience I shall call "lessons."

The first "lesson" is on cotton. I have selected cotton because it is a commodity and there can be no commerce without commodities to trade in. A study of commodities, therefore, is the beginning of Commercial Geography. Cotton is our leading export; hence, its position as Lesson I.

The first four slides are maps showing cotton areas in the United States and the world, and charts showing the rank of the different states and countries. Some of these maps and charts were manufactured commercially and the others were made by pupils. The commercial slides have greater excellence of workmanship but far less possibilities as an educational proposition. Maps and charts

lend themselves very readily to reproduction on slides made by pupils. Having pupils make them has the advantage of economy which means more material for visual instruction with the same out-lay of money. This method of obtaining slides has the additional value of interest. Industrial and commercial pictures are not so readily prepared by pupils. The teacher of Commercial Geography will largely have to depend on the commercial product for material of this type for visual instruction.

After showing graphically the geography of cotton I would show the pupils pictures telling the story from cotton seed to finished cloth something as follows:

Preparing the field for the seed:

A field of growing cotton:

A full grown plant, (close-up view):

Hauling cotton to the gin, showing first stage of transportation.

Mechanical method of sucking cotton from wagon into gin.

Baling.

Cotton seed at oil mill, showing utilization of by-product.

Cotton seed oil-cake, explaining uses.

Hauling baled cotton from gin to railroad station, the second stage in the transportation of this commodity.

Sampling and labeling bales at the station for identification and to show weight.

Loading bales on train.

Cotton bales on river barges, showing effective competition of local waterways with railroads in getting cotton from town of origin to seaport, which is the third stage in its long journey to the ultimate consumer.

Docks and ware-house scenes at Savannah, Galveston and New Orleans, the three great cotton exporting ports.

Map and chart showing cotton manufacturing districts in New England and recent rapid development of cotton manufacturing in southern states, notably North and South Carolina and Georgia.

Exterior views of one of the Amoskeag mills in Manchester, New Hampshire, a typical mill of the New England type, and the Sibley mill in Augusta, Ga., a typical modern southern mill.

Interior view showing most essential processes of manufacture. In connection with these last four pictures which show manufacturing processes, I want to caution any teachers who are about to attempt visual instruction for the first time against showing too many and too complicated pictures. The best cartoons have the fewest lines emphasizing marked features.

Lesson II, Illustrating Wheat as Typical of Agricultural Commodities:

Student-prepared maps and charts, giving the geographic setting.

Harvest laborers "shipping out" from the large cities for the grain fields of the West.

The use of improved machinery in harvesting.

The local elevator.

The large elevator at the nearest lake-port or railroad center with its expensive machinery.

A "drive" of cattle on the western plains.

Pens of cattle in the great Union Stock Yards of Chicago, emphasizing the geographic reasons for the marvelous development of meat-packing in that city.

An interior view of one of the great shoe factories of Lynn, illustrating the concentration of shoe manufacture in eastern Massachusetts.

A steer being drawn up by the horns with pulley blocks is being transferred from a row-boat to a steamer. This illustrates why is is more profitable in frontier regions to ship beef in bottles in the form of extract than on the hoof.

A milking scene in a large dairy. In showing a picture like this in the class-room I would emphasize the human side of the business, telling the class something like this: "Here you see the milk-man dressed in white because it is necessary that the milk which is fed to the babies in the city be kept absolutely clean. It requires a great many men to bring the milk from these dairies to your door. First, there are these men who milk the cows. Then there are all the employees of the railroads who operate the fast milk trains which haul the milk to the city. Large distributing agents take the milk from the trains in the outskirts of the city and distribute it to the many wagons. Last is the driver whose noisy clatter wakes you from your early morning nap, but whose faithful service day by day brings the cream for your breakfast coffee." Another illustration will also show how it helps to fasten the geographic facts in the pupil's memory if you emphasize the human side of the picture. Supposing you are showing the picture of cod-fish drying on the racks in Gloucester, Massachusetts,—explain that these fish were caught off the Grand Banks with trawls. This industry is very hazardous on account of the fogs and the danger of collision with icebergs or with other fishermen. It is so hazardous that widows dressed in mourning are a common sight on the streets of Gloucester and every Memorial Day when you are putting flowers on the graves of soldiers, these women throw flowers into the ocean as a tribute to their fishermen who died at sea.

Lesson III—Iron and Steel:

A scene at the Messabi mines in Minnesota.

Large hoists at a Lake Erie reshipment point transferring ore from boats to trains for Pittsburg.

The confluence of the Allegheny and Monongahela Rivers, a contributing factor in determining the situation of Pittsburg as the great iron and steel center of America.

A scene from the steel mills of Gary, Indiana, illustrating how a situation at the foot of Lake Michigan on the transcontinental railroads of the country close by the great coal fields of Illinois possesses the necessary elements for the favorable location of a great iron and steel center.

The assembly room of one of the great automobile factories in Detroit, illustrating the advantage that a city on the Lakes within easy access of the iron and steel centers has in the *secondary* manufacture of iron and steel products; for example, the automobile.

Lesson IV is on transportation, both by rail and water, showing the means by which the commodities of commerce are carried from centers of production to the great market distributing centers of the earth and Lesson V, a few pictures showing scenes in some of these great market centers. I will run thru these pictures without comment in the hope that they may furnish suggestions for any teachers present who are contemplating visualized instruction.

Lesson VI, which is the last lesson, is on Japan. It is a debatable question whether Commercial Geography can be best taught by the topical method, using such topics as individual commodities, production centers, transportation, and market centers, or by the regional method of studying countries, or by a combination of both methods. Visual instruction may be applied to the regional method equally as well as to the topical method. These typical pictures showing Japanese life and industries, I think will prove it:

A street scene in Tokio.

The Japanese rick-shaw.

A typical Japanese farmer with his coat of straw.

Japanese women working in the rice fields.

A silk-worm incubator.

Japanese girls making paper.

Interior view of the Mitsui silk mill in Japan.

A bale of pierced cocoons as they are shipped from Japan to the silk mills of the United States.

Japanese girls hand-painting vases, a national industry.

A Japanese hand-cart loaded with bamboo baskets, illustrating another national industry.

A Japanese umbrella factory, showing how a land with dense population like Japan specializes in industries which require a great amount of labor in proportion to the amount of raw material consumed.

A huge truck loaded with tea boxes drawn by several men, showing that where population is so dense the price of labor falls so low as to make it profitable for even an enlightened people to employ man-power instead of machinery in industrial operations.

Peculiar methods of advertising employed on the streets of Japan.

This concludes the pictures.

I am thoroughly convinced of the educational possibilities of visual instruction and recommend it to any who have not tried it.

Mr. L. B. Parsons, Evanston, came next with "**Commercial Arithmetic,—Some Suggestions as to Content and Method.**" His discussion follows:

Commercial Arithmetic is in the Commercial Course of almost every High School in the country today. The mere fact of its presence in the course of study is a good reason for the consideration of the subject at this conference. So vaguely determined is its status that commercial arithmetic might well be considered from many viewpoints. Its aim needs to be defined. Its subject matter needs to be standardized. Its location in the high school course needs to be determined. Until these things are done commercial arithmetic will be more or less of a makeshift. Commercial arithmetic is not good college entrance credit today quite largely because of its unstandardized condition. The fact that many times the teacher of commercial arithmetic is selected merely because he or she happens to be free at the commercial arithmetic period, indicates how much of a makeshift the subject is today. It is difficult to find a mathematics teacher, who will be content to teach such elementary mathematics as arithmetic and sympathetic enough to commercial work to give sufficient attention to the commercial applications. Many commercial teachers are so filled with the commercial idea that the arithmetic fundamentals suffer. It is, of course, the fundamentals that need the most attention in the high school work.

In attempting to formulate the aim of any subject we must keep in mind our main objective—the proper development of the individual pupil with special reference to his place as a member of the community. Commercial arithmetic should develop the pupil's power of handling numbers and his power of thinking logically. Skill in the fundamental operations with integers and simple fractions is of the utmost importance in business life. By means of the simpler applications of arithmetic to business life, commercial arithmetic can be correlated nicely with other commercial subjects. These applications will give the pupil some idea of how business is conducted and can be the means of presenting many economic ideas. Many situations arise in considering the applications of arithmetic to business life that will help in developing the pupil's power of logical thinking. While accurate and rapid work in the mechanical processes of arithmetic is essential, we must not stop there. Pupils of high school age can have many processes of arithmetic rationalized advantageously, that were formerly simply routinized.

We should do everything possible to discourage mechanical, imitative work. The question "why" can be used very effectively to show the mechanical worker the error of his ways. The ability to draw correct conclusions from facts is an ability worth acquiring. It is an ability that all teachers strive to cultivate in their pupils.

Since arithmetic is the science of number, as our old arithmetics used to say, a logical point of attack is our number system itself. Too often, perhaps more often than not, commercial arithmetic students are started at once working with number on the assumption that they know enough about number to use it intelligently. High school students do not as a rule, have even a fair understanding of arithmetical number. A discussion of the need for number and a brief tracing of the development of our number system will help pupils to get the number idea. Many pupils work with the number symbols quite accurately without ever getting the number idea back of the symbols. Enough time might well be spent at the beginning of the work to show the convenience of our number system and to familiarize the pupils with some necessary number operations such as reading and writing numbers. There are always several pupils in each class who cannot read or write numbers with any facility. The decimal feature of our number system is seldom sufficiently stressed. A good understanding of this feature alone will be worth more than many so-called short methods. Drills in reading and writing decimals and mixed decimals will help fix the decimal idea.

It is of especial importance that the fundamental operations with integers and fractions be mastered. Employers of high school pupils emphatically recommend more thorough training in the fundamentals of arithmetic. Pupils well grounded in the fundamentals will have little difficulty in acquiring the particular number skills necessary in a particular line of business. The intelligent mastery of the use of mechanical computing machines will be greatly facilitated by a good knowledge of the fundamentals of arithmetic. With many such machines, multiplication is simply continued addition, division continued subtraction and square root continued subtraction of odd numbers. Good work in commercial arithmetic will bring out these points, as well as others, in connection with the work on the respective processes. Under average conditions probably half of the time allotted to commercial arithmetic could be profitably spent on the fundamentals, if we include percentage as one of the fundamentals. Careful presentation followed by drills, drills, and more drills is the only way to make the processes "stick." It is difficult to present what most pupils regard as old material in such a way as to get the response necessary to correct faults that greatly reduce efficiency in the fundamental operations. The drills must be varied. Timed drills and competitive drills add zest to the work. It is a long pull and it will tax the powers of any teacher to keep the drills from lapsing into mere repetitions. An occasional word of commendation, judiciously given, is worth more than much driving. Oral drills can be very helpful. Great care must be exercised to prevent oral drills from becoming a rest period for the lazy. In addition to the variety they give, oral drills supply a type of work that is so valuable that they are worth using even at the risk of uneconomical use of time. Mental arithmetic will develop a speed in computation and help produce a mental alertness that is very desirable. The business man, who can think a problem through in his head, has a decided advantage over the man who has to do his figuring on paper. He has his result and is thinking about the next move while his competitor is still working at the original problem.

Mental arithmetic is very valuable in connection with fractions and facility in handling simple fractions is quite essential. Problems involving fractional relations and analysis require close thinking and hence are of assistance in helping to break away from mechanical, imitative work. The problems should have as much practical value as possible. Detailed analysis of problems can be over done but a rigid insistence that each statement in the analysis should tell the truth is necessary. A slovenly analysis is worse than worthless because it makes for

slovenly thinking which is far too prevalent anyway. Usually a correct solution may be taken as an indication that a correct analysis has been made. One point in connection with decimal fractions that needs emphasis is the placing of the decimal point. The location of the decimal point in problems involving division of decimals is a topic that needs careful attention. Misplacing the decimal point is a very common but unnecessary error.

A brief treatment of the metric system of weights and measures is almost necessary. The metric system has come to play such an important part in business life as well as every day life that we are forced to include it. Comparison with our system of weights and measures causes a reaction in favor of the metric system. A word or two about the history of the metric system and a brief story of the origin of the principal units of the system will add interest. In mensuration we can omit many of the topics presented in the old arithmetics—such as measuring of pyramids, cones, spheres; carpeting, roofing, painting, papering, masonry, etc. Their use to the average pupil is so negligible as to make their omission advantageous. These topics are not omitted however with a view to lightening the course.

It is very helpful to preface the percentage work with quite extensive work in aliquot parts—using both oral and written drills. Drills in aliquot parts are especially valuable because they can be made to give considerable insight into number relations. Percentage is a special case of fractions but such an important special case, from the standpoint of business, that it requires very careful treatment. If percentage is to be handled by the case method the basis has already been laid in the work with fractions, i. e. finding any part of a number; finding what part one number is of another; finding a number when a part of it is given. If the case method is used care must be taken to prevent the cases from becoming magic formulae to be used mechanically. Expressing percentages as fractions wherever possible, shortens computation greatly and frequently simplifies the solution. Here is one place where the work in aliquot parts will show. Stated problems in percentage will help develop the ability to think in terms of definite proportions. Without limiting ourselves to any particular method of solving percentage problems, we might say that every statement in the solution should tell the truth. As was indicated in connection with fractions, there is so much slipshod analysis work done that it would be difficult to overemphasize this point. Commending original solutions of problems will stimulate thinking.

In presenting the applications of arithmetic and particularly percentage to business, we must not limit ourselves to attempting to give the pupils some information or ability that he can immediately sell to his employer. The applications of arithmetic to business are so numerous that we can touch in some way almost every line of business. If we are to make the applications real it is necessary to be closely in touch with prevailing business customs and procedures. Occasionally excursions to neighboring business institutions help to vitalize the work if the pupils are enough prepared beforehand to know what to look for and what to ask about. Of course any technical treatment of the procedure in any line of business is impossible since the high school is not the place for such specialization. Interest, discounts, insurance, stocks and bonds, profit and loss, taxes, and banking are all so closely connected with all business that they afford many chances to correlate the work in commercial arithmetic with business life. It might be profitable, after some of the tools of arithmetic have been mastered, to trace the course of business from the receipt of the order to the collection of the bill.

There followed a paper by J. L. Hunter, East Aurora, on **Aims and Methods of Teaching Bookkeeping and Accounting in Secondary Schools**:

The purpose of this paper is to formulate the best aims and methods of teaching bookkeeping and accounting in secondary schools.

The bookkeeping course has a prominent place in the curriculum, and we must plan for better results or our course will deteriorate. A business organization finds out by the accountant or business expert where and how the business can produce more profit. Bookkeeping and accounting instructors must find out their aims and secure the best methods in order that they may place a more finished product on the market. Statistics show us that eighty-five percent of the students studying bookkeeping and accounting in high schools never become bookkeepers. There are two possible conclusions to draw from these statistics. One is that our aim is not to make bookkeepers the other we are failing as teachers to present the proper material and methods.

The author of our text sets certain aims for us; the business man tells us what he expects from the high school bookkeeping student; and we as teachers should know the aims of our students.

McKinsey gives three aims in his text: "Meet the need of those who desire to obtain employment in the accounting department of a business; meet the need of those who do not desire to become bookkeepers or accountants, but who expect to enter business life and desire a business foundation; meet the need of those who expect to take courses in accounting in the University Schools of Commerce and desire a preliminary training which will serve as a basis for these courses."

W. A. Scheaffer of the Metropolitan says, "If bookkeeping is to maintain its place as a study in the secondary school curriculum on a par with other subjects, the *thought-side* must be emphasized. Bookkeeping as a study should not depend on its practical value alone, for its standing. The subject is as much educational or disciplinary as vocational."

Chas. F. Rittenhouse of Boston University says, "The aim of bookkeeping is to serve three purposes: vocational, educational and disciplinary."

Kline says, "The aim of bookkeeping is to give the student a general knowledge as a business foundation."

Baker tells us to give the student a working knowledge of the subject.

Miner and Elwell say, "To apply a principle is of far more practical value than the ability to define it."

Thus the authors of our texts have set up two aims: vocational and disciplinary. One placing more stress upon the vocational side while the others emphasize the disciplinary.

The business man's point of view is one in which the teacher should be very much interested, for he is the party to whom we must sell our product, that is, if our aim is vocational.

A banker says, "If I were to state what I consider the fundamental value of bookkeeping, I would say disciplinary."

A survey on Commercial work by the Cleveland Foundation finds that business men want students who can spell, write, figure, and who have such qualities as industry, application, and accuracy.

A few weeks ago I received a business letter from a friend, who has been in the banking business for many years. He said in part, "I hope you are wielding the rod of authority so that you can instill in the young minds something that will enable them, in the future, to keep the wheels of Commerce turning constantly, and to so mould character, that we can at least trust them to buy for us a postage stamp without making graft their main object."

Thus the business man says to us, as teachers, "Prepare for us bookkeepers who know the theory of accounts, who are accurate and neat, and who know business principles and can apply them."

Another party concerned as to the bookkeeping course is the student. What is his aim or why is he taking the course?

I carried out an investigation on this point by means of a questionnaire, thinking it would be interesting information and that it might possibly aid us in knowing *what to teach.* This was not an extensive survey but I believe it sufficient to indicate the situation. The questions asked were: "Are you taking the bookkeeping and accounting courses to become a bookkeeper, a clerk, or for general information as in any other high school subject? This investigation was carried out in three Illinois schools—Rockford, with an enrollment of two thousand, one hundred students; East High of Aurora with an enrollment of seven hundred and fifty, and West High of Aurora with an enrollment of four hundred and fifty students. From Rockford's two hundred-sixty-six bookkeeping students 30.45% selected the bookkeeping course with the idea of becoming bookkeepers, 7.89% to become clerks, and 61.65% for the general knowledge. From East High's ninety bookkeeping students 42.22% are taking the course to become bookkeepers, 10% to be clerks while 47.77% are taking the subject for general knowledge. Out of West High's forty-eight bookkeeping students 27.08% are taking the course to become bookkeepers, 20.83% to become clerks and the remainder, 52.8%, are taking the course for general information. So we find that Rockford and West High have a larger percent taking the course for general information, while East High has a larger percent taking the subject for a vocational reason. But when we consider the four hundred and four bookkeeping students of the three schools we find that 132 or 32.68% expect to become bookkeepers; 40, or 9.9% to become clerks and 232, or 57.42% are taking the course for general knowledge. Grouping the expectant clerks and bookkeepers together we have 42.68% that are taking the course for the vocational reason while 57.42% are taking it for the educational side. So from the student's point of view too, our aim must be both vocational and disciplinary.

Chart showing why students take Bookkeeping Accounting in Secondary Schools

| High Schools | Enrollment of School | Enrollment in Bookk'ping | Reasons for Selecting Bookkeeping Course | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | Vocational | | | | Disciplinary | |
| | | | Bookkeeper | | Clerk | | Business Knowledge | |
| | | | No. | % | No. | % | No. | % |
| Rockford..... | 2100 | 266 | 81 | 30.45 | 21 | 7.89 | 164 | 61.65 |
| East Aurora... | 750 | 90 | 38 | 42.22 | 9 | 10 | 43 | 47.77 |
| West Aurora... | 450 | 48 | 13 | 27.08 | 10 | 20.83 | 25 | 52.08 |
| Total..... | .... | 404 | 132 | 32.68 | 40 | 9.9 | 232 | 57.42 |

Bookkeeping 32.68%, Clerks 9.9%, Vocational 42.58%, Disciplinary 57.42%.

Our aims being established, we must secure the proper materials and methods to carry out these aims. I am not maintaining that any certain text or system is necessary to teach bookkeeping but I do maintain, that much of our work is wasted and you and I must have the best material to secure the maximum results, just as a mechanic must have good tools and good material to produce a fine specimen of work. Many of us do not use our material in the right way. A text should not necessarily be followed word for word. No one author has all of the valuable material bound in his book and we should supplement the work to meet *our student's aim.*

If I were to ask the question, "What text carries out our aims as outlined, to the fullest degree?" I am sure that many of us would not agree. But a good bookkeeping text must have a good approach, for the first semester's work

is the most important of all and the student must have a good start or he will have difficulty and lose much time in the work.

There are four methods of introducing double entry bookkeeping: the account method, the complete original entry method, the statement method and the journal method. We are all familiar with these methods but I wish to point out certain facts regarding each method.

The account method does not give the correct approach for three reasons; 1st, certain texts using this system give a prolonged study of various accounts, which cannot be put into use at the time of study, for the double entry idea is not brought into use at that time. This early learning is worse than lost time, for the student has been doing things he will have to change later. He will later find that two entries in the ledger are required for each transaction. A second criticism is, that as a rule, when the account method is used a large number of technical definitions are to be learned. The student also learns that one account is debited or credited for many different reasons. Why learn all these various reasons when one rule will cover them all? Third, the system is not logical. We are making it a memory course instead of having the student reason his way through the subject.

The complete original entry method, or a system where all of the books of original entry are introduced at once does not cause the student to retrace his steps, if the student gets the material. But the average high school student is not capable of grasping the situation. The student may be able to put the entries in the proper books but this does not prove that he understands why he does it. We have shown that over fifty percent of the students taking bookkeeping are taking it because they wish to receive a general business knowledge. Therefore it is necessary that more time be spent on the theory of accounts rather than learning the mechanical side of the subject.

The statement method of approach is one that deserves consideration. The balance sheet and profit and loss statement is the basis for study. It is developed from the business man's point of view. McKinsey has given us a text with this approach. We are not advocating that all should adopt this text, as we are not using the text ourselves, but as bookkeeping teachers we should at least consider the new ideas. The advantage in this text is, that it teaches business principles. The question is, can the student solve the problem of the balance sheet before knowing accounts? If the student can grasp the subject by this method, we must draw the conclusion that it is a good approach for one of our aims is to teach general business.

The Journal method is one of the oldest forms of introduction, and it has survived for, it starts the student with the double entry idea, the foundation of all bookkeeping. Each account, as brought in use, affects some other account and thus a mental development has come about by reason instead of being just a memory development. I have changed this method in my teaching. I give the student the fundamental rules and then proceed to teach three accounts, the cash, purchase and sales accounts. The student is required to make the entries, placing the amounts in the *two proper accounts*. After the student has learned several accounts the journal is introduced and later the rest of the books of original entry. If our text does not have the proper methods we must change the course to meet the need.

Another factor that enters into our method of teaching is the short or long sets. Some practical advantage may be derived by presenting bookkeeping through long, special sets, but much time is saved and much effort conserved by presenting a broad aspect of the subject, so as to make a universal application through the use of the short sets and drills for beginning students. Many business men maintain that a thorough training in the principles of bookkeeping better fits an applicant for work in a particular business than does the more specialized training. Long special sets may be all right for advanced students,

but a student who understands the principles of bookkeeping can very quickly adjust himself to the special features of the set which he is going to keep. Therefore, since the majority of firms have their special books we should teach our students the basic principles of bookkeeping and not enter into special forms. The only advantage of the long set is that it gives the student an idea of connected months of business. This same point can be gained by having the students close their books in the middle of a one-month set, as well as at the close of the set.

New phases of the work should not be introduced until the student is able to use them in their proper place. Take for example, purchase discount. Many texts introduce purchase discount without having a special column in the cash-book for it, consequently it has to be entered on the opposite side of the cash book, where it does not belong, while the full amount of the invoice is entered as paid out, which is not true. When the special column for discount is then introduced the student has a new method of proving cash and he is confused. Teach one way to do a certain thing and carry it through the course and the result will be that the student will have a clear idea of the subject.

According to our authors, business men, and students, our aims are vocational and disciplinary. We found that only 42.58% are vocational. We are not responsible for the 57.42% because they don't secure clerical positions for their aim has been a general business knowledge or disciplinary. There are many students of the vocational group who do not carry out their aim for whom we are not responsible. We are responsible for a large majority of this group and we can reduce the percentage of their failure to secure positions by knowing *every students aim for taking the course*, by having a good introduction to the theory of accounts, materials logically arranged so as the new material is introduced it will not have to be changed. We are responsible for giving the 57.42% or disciplinary group a good course. Besides giving them the theory of accounts we must teach them business principles, bringing in many points of commercial law with the business transactions, and establish good business ethics, and the business man of tomorrow may benefit by this teaching.

The closing paper was by Miss Ada Maskrey, of Galesburg, who spoke substantially as follows on the subject of **English for Commercial Students in the High School**:

I know better than to try to tell you people how to teach English to commercial students. For one thing, I myself do not know. For another, I know that you could tell me more, probably, in a half hour, than I have found out in two years. But I shall merely give you some idea of what I am attempting to do, and if I don't accomplish anything else, I'll make you feel satisfied with your *own* work!

First, I feel, as you do, that our course is not a little bony framework of verb forms and capital letters, padded with a thin covering of tiresome business letters and a superficial layer of salesmanship. The shorthand, typewriting, arithmetic, and so on, are the absolutely essential framework and strength of the student's training; his whole school experience is very often bound up in just what you are able to give him; but, teachers, his English is the one thing that holds your work together; it is the very spirit and the light of his commercial knowledge, and as such must receive our best respect and consideration if we want him to really gain something worth while from our work. I am fortunate in having a department head who realizes and appreciates the things I am trying to do in my classes; and if any of you who teach English are so unfortunate as to have a head who is too small to appreciate your best efforts, or too small to give you the fullest measure of credit for your honest endeavors, you have my sympathy. Why? Because the student of our type of English is, almost invariably, the keenest, most observing, and most frankly judging, of all the English students in school; because personality and individual character and

reactions to the character of others are his one main study and his one main hope; and because he is more sensitive than any body else in the high school to our relations with our associates in this work. Don't think for a moment that this is not apropos. It is one of the foundation stones of our success with our pupils. You see I am talking from the teacher's view, not from the student's.

True, there are some of our pupils who can not equal the rest in quickness of perception, or in anything else; for the people who take our work are either those who are bright enough to be business men and women or those who are not bright enough to be anything else. Is your town like my town? I am reasonably safe in predicting the business future of every one of my pupils after I have had two weeks' experience with the class, and I don't know much about the intellectual or spiritual depth of any of them, either; it is not mental growth alone that we must watch,—it is that intangible something we call personality. Whereas classical English develops aesthetic appreciation, true sentiment, and fine ideals, our English makes our boys and girls independent, confident and worthy of the respect of the thousands of people with whom they must soon come in contact. We are not providing merely for the better enjoyment of leisure time,—for pleasure after school life is done; we are trying to put into more beautiful language the terms upon which our young people shall later demand their daily bread.

What can we do? First we have found it better not to let our Freshmen and Sophomores take Commercial English. They have not yet had the necessary training in the essentials of composition, and they probably are just taking it for credit, anyway; they are entirely too inexperienced, too immature, to get the real meaning of the work; only Juniors and perhaps Seniors who need it and who show a desire to work. Second this year we do not accept people not in the commercial department, except those whom we know to be honest, hard-working students who will make good. It is not fair to us, to the reputation of our school, and especially to the other pupils in the class, that we be made to carry dead weight material for nine or ten months when common sense would eliminate the slackers in two weeks. Next, we have spelling and penmanship required in the first or second year; that insures written work that can at least be deciphered. We try not to let our department be so narrow that we have no chance to encourage our young people to take public speaking, music (though we have no music courses) and such other subjects as would be a help to personality development; one of the first things I would demand as a prerequisite would be first year Latin; it gives an excellent basis for vocabulary study.

What else can we do? We kill our work if we are tied to a text book. I have several excellent texts and reference books, but it has been good for me to be thrown upon my own resources by the failure of those books to meet local needs. I am blessed with a response so much more enthusiastic when I teach my own work when I am real, not make-believe. Am I teaching letter writing? I let Harold write answers to the requests, our athletic manager has received; I have Gerald write to the Department of the Interior about that list the teacher of Economics wants; why on earth should they both turn to Exercise 5, Page 34, and purchase a steam launch from a southern firm, or advertise lumber land in Minnesota? Just after school opened, we wrote over a hundred real letters, (several of our teachers were good enough to trust us with their letters) with the result that Harold, instead of feeling unspeakably foolish asking his harsh landlord to give him a little more time, sent an important looking letter to Melbourne. A pupil, especially a boy, has to respect a subject before he will study it. Any pupil has to see some definite reason for his spending good movie time on a lesson if he is to learn anything. To the ordinary boy who expects to be an engineer or a bank examiner, blue or blew, colon or semicolon, mean no solid stepping stone to fortune; the youth who knows all about a Dort or a Hup feels no passionate desire to use an apostrophe in don't; the girl whose soul yearns toward millinery shows only a negligible interest in capital letters; unless we make the young engineer realize the importance of comprehending the daily

papers, writing a good business letter, and so on; nothing but ambition will do it.

Really, what must be the extent of a student's respect for what we are endeavoring to do for him? It must be governed by the genuineness of our attitude toward him. If we are over-formal, stilted or too prosaic in our speech, he distrusts our sincerity; if we are careless or slangy, he distrusts our intelligence; if we dwell too much on grade school fundamentals, he wonders, and justly, too, if our attitude toward life in general is tied down in a little tight roll of verb forms and semicolons; maybe he can not put his feeling into words, but it is in his eye as he looks at us. On the other hand, if we over-emphasize the bigger phases of our work,—business literature, communications, to the near-exclusion of the essentials, he realizes that he is being but superficially prepared for the realm of human character that he will enter as soon as he is out of school. We can only try to combine the two phases of our instruction as best we can.

If you are situated as I am, your students are a mingled joy and problem. For one thing, many of mine literally have to be taught to think. Some, who can think, are blessings; some, who are perfectly willing to try to think, are good material; but Oh the ones who have never, until we get hold of them, been made to feel that they have minds of their own! In these we are not even so fortunate as Mrs. Shelley was in her son; you have heard of her answer when someone asked her if she wouldn't better send her boy to a school where he would be taught to think for himself: "My God! Teach him rather to think like other people." The thing that is wrong with these non-thinkers is that they have been taught by the impression method from their infancy up, and the only help we can give them is a fervent hope that some bright day we may forget this wave of impressionism that has swept like the flu all over this country. In the grades, (early stages) dear teacher put a word on the blackboard, pointed to it with her ruler, and announced, cheerily, "Children, this is Christmas." The children blinked and beamed and said, "Thith ith Chrithmath." Then the pointer went to another word, a word which the teacher hopefully said was "Thanksgiving," knowing full well that the teacher had got her dates mixed, but being too polite to tell her so. By the time they were in the sixth grade, they had "caught on" that one word began with a C. When we met them, later on, in high school, it was neither Christmas nor Thanksgiving; it was Woe. And instead of teaching them all the wonderful new things we ought to be teaching them, we have to spend valuable days wasting our time to make up for somebody else's time. Then they are graduated from high school; and from the banks and stores and factories and offices downtown there rises a wail that sounds like the mourning over Jerusalem; and the theme of it is this: "For the love of heaven, what have you been doing these four years? Can't these high school graduates spell? Can't they write? Can't they sign an order? Can't they think?" I'm not exaggerating. I have had class after class of people who did not know how to use a dictionary. That is the first thing I try to teach. Most people who come to us think a diacritical mark is a Greek letter; so I have to teach accent marks, hyphens, and so on; I have had people who didn't know the alphabet! I try to teach the use of magazines, newspapers, the public libraries,—any thing that will make my pupils absolutely independent of everybody, including me!

I want to teach a wholesome respect for law and order; my classes are organized clubs; a few minutes a day, a special period a month,—with responsible officers,—real program committees and real programs once or twice a month,—student committees to assist the teacher in making out little slips of comment deserved for good or poor work,—what chances we have to help the youngster be good citizens later on!

Extempo talks are valuable. After a short time spent in interested club discussion, every member of the class will be able to speak extemporaneously, and not know he is doing it. All life comes to him extempo, so why not help him meet it? Then prepared talks and debates have their place. Always, always I want my students to be honest in their expression of opinion; I can't

insult them by suggesting that they will not be genuine, but if anyone is dishonest in any sense I do not let it go by; it isn't fair to him. High school people like to philosophize; we should see that they have every chance to; they can not tear Hamlet or Lear to shreds,—I'm going to give them Sidney Carton and Jean Valjean; and Emma McChesney and Skinner of the dress suit; I'll give them people like that, who are worth analyzing. I can not do it all at once, but I shall do it sometime.

I want to see that my pupils know how to talk to people; they can use a telephone intelligently, order groceries, send a telegram or night letter, over a telephone, give an after dinner talk, introduce a speaker, give a creditbale talk on matters of local importance, say the right thing to a hostess, new acquaintance, or book agent.

I must see that they know how to write to people; how foolish it is to make Robert rewrite an invitation to his sister's wedding, when he has no sister and if he has she would have her invitations engraved; what he needs is to know how to write checks, bills, orders, receipts, as well as sensible, entertaining personal letters of all kinds. He needs to show how to use words. A study of the principles of advertising helps in this, as well as in his ability to feel the fitness of things. The student must write so much that our ingenuity is taxed to keep him from being bored, but the fact remains that he must write commercial letters of many kinds, of applications, requests, introductions, advertisements, circulars, payments,—in fact all types there is any real reason for his learning to write; let him put into these letters all the originality he has in him; originality of idea and expression; we have got away from the old days of stilted commonplace; and my task, as I see it, is to make my pupils as different from me and from each other as I possibly can. Suppose Frances showed a bit of her own individuality in her written work; it was only a spark, but for a moment the glory was revealed. I would encourage originality as I would encourage morals! It means about as much. Poetry? Why not? I really don't overdo it, but I give it a chance. Better one ringing, forceful sentence or one fairly musical stanza that wings itself out of a youngster's dreams than an hour's forced drudgery at spiritless construction. You other teachers can tell him about his key board, his subtrahends, or his return curves, with infinite skill and patience; but you never in all your life long can teach him that little bit of prose or poetry that was his very own,—that little bit of personality that came to him from somewhere beyond our pedagogical ken.

Our own interest plays a remarkable part in our English teaching; we can not allow the other English students to do things of school interest without encouraging our own pupils to take part, too; in our Better Speech week this fall, one of my boys won the prepared talk preliminaries in the Junior class and did very well in the finals; another was given third prize in the student boy's poster contest, and should have had first; one of my girls won the Junior original song prize. We find our people always able to do the same things if they are given the chance.

During the summer I made lists of the best articles printed in the better class of magazines of the past year; now when we are interested in the opportunities of young women in the business world, I turn to my page on "Women's Work," and know exactly where to look for material; many of these magazines I have at home, but the ones I do not have, are very easy to find at the library. A few hours' work in the summer saves day's work now.

I have not said one word you did not already know; but, teachers, I have done one thing: I have told you what you did know, that your English course in the commerce department is one of the most perfect opportunities you will ever have to come to appreciate the teacher-and-pupil relationship that exists where there is a basis of mutual respect, understanding, and desire to be worth while. Classical English develops mind and heart; our English develops mind and heart—and an independent spirit that can ask what it will of life, and get

what it asks; classical English develops aesthetic happiness and understanding; ours, the power and the glory of a work that someday will be well done.

The Commercial Section went on record as favoring college entrance credit for all bookkeeping begun not earlier than the second year of High School.

Mrs. Frances G. Sullivan, Crystal Lake, was elected as the new member of the Executive Committee, and Miss Margaret Higgins, Joliet, Secretary for 1922.

### 6. COUNTY SUPERINTENDENTS AND VILLAGE PRINCIPALS SECTION

The County Superintendents and Village Principals Section met in Room 119, Physics Building, 9:00 A. M., November 18.

Superintendent G. E. Goforth of Cobden was elected chairman. County Superintendent Chas. H. Watts, 1924, County Superintendent O. Rice Jones, 1923 and County Superintendent W. A. Hough, 1922, were elected members of the executive committee. W. S. Booth was continued as permanent secretary.

In the morning County Superintendent J. C. Stoddard and County Superintendent E. C. Pruitt presented very interesting papers on "The Transfer of Pupils from One High School to Another." A very profitable discussion followed.

County Superintendent B. C. Moore, Superintendent E. W. Mattoon and Superintendent V. T. Smith presented the subject "The Value of the Illinois Tests to the Rural and Village High Schools" in a most interesting and profitable way.

The afternoon session included a short address from Mr. H. A. Hollister and a very brief report of the Committee on Harmonizing Standards. The report was accepted and the committee discharged.

The problem of "The Rural High School" was presented by A. M. Shelton, county superintendent of McHenry county.

"The Opportunity of the Small High Schools" was discussed by Dr. E. H. Cameron, University of Illinois.

The Committee on the Harmonizing of Standards submitted a brief report and the committee was discharged.

The following papers were presented and included in the secretary's report:

## The Transfer of Pupils from one High School District To Another

### J. C. Stoddard, County Superintendent, Mason County

Section 96 of the School Law reads as follows:

Upon the approval of the county superintendent of schools any high school pupil may attend a recognized high school more convenient in some district other than the high school district in which he resides and the board of education of the high school district in which said pupil resides shall pay the tuition of such pupil, provided, said tuition shall not exceed the per capita cost of maintaining the high school attended. . . .

The tuition paid shall in no case exceed the per capita cost of maintaining the high school attended, excluding there-from interest paid on bonded indebtedness, which shall be computed by dividing the total cost of conducting and maintaining the said high school by the average number of pupils enrolled, including tuition pupils. (As amended by an Act approved June 26, 1917.)

*The Law relating to the transfer of pupils.*

Edward J. Brundage on October 23, 1917, handed down the following interpretation of the above quoted law:

"As I interpret the meaning of these words of the statute in the connection in which they are used, they should be held to mean the high school *most handy or most easy of access.* But this construction excludes the idea that the language in question necessarily means the *nearest* school. The phrase "more convenient" should be *reasonably* if not *liberally construed* as over against a strict construction that would probably compel attendance at the nearest high school; whereas, in many cases, it might be "more convenient" to attend a school even at a greater distance.

It is my opinion that in determining the question in any particular case as to what high school would be "more convenient" for a student to attend, a county superintendent has the undoubted right to consider such questions as the distance to be traveled, mode of transportation, expenses and kind and character of roads and routes to be traveled."

On September 12, 1921, J. C. Thompson, Legal Adviser, Department of Public Instruction, handed down the following interpretation:

"The duty of a county superintendent of schools to issue a permit of transfer in consequence of paragraph 1, section 96 of the general school law should not be misunderstood. The power to grant a permit of transfer to a high school pupil to attend a recognized high school more convenient in another district is a discretionary power on the part of the county superintendent of schools and in the absence of an abuse of this power is not subject to review by the courts.

The attorney general has pointed out that a pupil is not necessarily required to attend the nearest school. If the residence of a pupil is tributary to another high school, that is to say, more accessible, you have the right to issue the permit of transfer."

Representative Ben L. Smith on September 21, 1921, wrote the following interpretation of section 96:

"Replying to your inquiry of recent date, I will say that as County Superintendent of this County I always construed that section to give me the right and the power to let a child go to a *nearer* high school than the one in which the child resided. I do not recall ever considering any other matter as entering into the question of convenience. I am quite sure that that paragraph was inserted in the law for the purpose of providing a means by which a child could have justice meted out to him, when his residence was taken into one high school district when it was nearer to another high school."

In the administration of section 96 the greatest difficulty comes from the difference in the interpretation of the phrase "more convenient." Someone has said that this phrase is a case of bad grammar and the Legislators meant to say more accessible when the phrase more convenient slipped in. So if we are going to interpret more convenient as meaning more accessible then the county superintendent has the undoubted right to consider such questions as distance to be traveled, mode of transportation, kind and character of roads and routes to be traveled. In other words, the high school to which the child wants to be transferred would be the one which is most handy and easy of access; not necessarily the nearer high school but the place to which the child might go most handily and easily.

While many parents come before the county superintendent because they find another high school more accessible, by far the more come and ask for transfer because they find it more convenient to attend another high school. It seems as if from the above interpretation of the Attorney General of the State of Illinois that he has taken the word, "convenient" at its literal meaning. It is evident that he has interpreted the phrase to mean more convenient as against the interpretation of more accessible. Adding to the question of accessibility he states that the county superintendent has the undoubted right to take into consideration the question of expense and cost to the pupil. This is a liberal construction as over against a strict construction. In other words, the county superintendent has the undoubted right to transfer pupils because their parents are tributary to another school. The community high school law anticipated that distinct communities would be taken into these districts, and people who actually traded, banked, marketed their goods at a certain center that into that particular high school district, they naturally would be included. But there was no way of forming these districts so that these lines would incorporate distinct communities. The boundaries have been flagrantly out of place in some instances. In my own county I had one district take 23 sections of land which belonged to another community. Since the abolition of the Ex-officio board there is no way to change boundaries. This means, of course, that the only way that pupils may go to their proper school is through transfer by the county superintendent. Many troublesome cases have been removed because boundaries have been made to follow the community idea. Many cases now come before the county superintendent in which the parent strongly desires to go to his natural center and there to send his child to school.

There seems to be no place in any of the interpretations which I have submitted which would justify a county superintendent to transfer a pupil when back of the transfer there was a desire to attend another high school because the pupil thought he could get better school facilities at another high school. Many times the pupil has been transferred from a non-high school district for three years, and then previous to his taking the fourth, he had been taken into a community high school district. It is natural that he should desire to go there and finish his work with his class, but in such cases the parents are required to pay the tuition or the receiving board of education set the tuition charge at nothing, and thereby permit the boy to finish his work in another high school district.

Experience in administering this law proves that much time and attention should be given to the transfer of pupils by the county superintendent. Boards of education have no right under the law to decide what cases they shall permit transfer and what ones they shall not. They have nothing to say about the matter. The law explicitly states that it is the approval of the county superintendent and not the board of education. The law does not mention the board of education at all. As a matter of courtesy, however, in the administration of this law it is best to submit the matter to the board of education before permit of transfer is given by the county superintendent. I believe the county superintendent should sit in the capacity of judge, and have both sides of the question presented. I believe that both sides should be present when all the facts are ascertained. Then

with all the facts clearly before the three interested parties, the county superintendent, the child and the high school board, a decision can be reached, which may not please everyone, but one on which the county superintendent can conscientiously rest his case.

It is evident that this is a discretionary power on the part of the county superintendent. Should he refuse to issue a permit, his decision is not subject to review by the courts. Even though it may seem that it is more convenient for a child to go to another high school than the one in the district in which he lives, the county superintendent may refuse to approve the transfer. It is also clearly evident that he can only exercise this power under one condition; namely, when it is more convenient to attend another high school. In some cases, boards of education want students and admit pupils without tuition charge into their school. In the case of a child who wishes to attend a high school district in another county than the one in which he lives, providing that it is more convenient for him to attend there, he must get the approval of each of the county superintendents interested.

## Transfer of Pupils from One High School to Another

### Edgar C. Pruitt, Springfield, Illinois

Section 93 of the general school law provides, among other things, that in each county of the state, all the territory of the county not included in a township high school district, or a community high school district, or a district maintaining a recognized four year high school, shall be organized into a non-high school district for the purpose of levying a tax to pay the tuition of all eighth grade graduates residing in such non-high school district, including pupils attending a recognized two or three year high school conducted by a local school district.

Section 96 further provides that any eighth grade graduate residing in a non-high school district may attend any recognized two, three or four year high school, and his tuition shall be paid by the board of education of the non-high school district in which he resides.

The law also provides that a pupil living in a four year high school district may attend another four year high school provided the pupil receives a permit of transfer from the County Superintendent of Schools in whose county the pupil resides. This permit of transfer may be issued at the discretion of the County Superintendent of Schools. If he thinks the pupil has a good reason for asking for a permit of transfer he may grant the same, although the pupil may live, in some instances, farther from the school which he desires to attend than from the school located in his own district. In all such cases the school where pupil resides shall pay the tuition.

The County Superintendent should be very careful in issuing permits of this kind for the reason that many school boards do not desire to have pupils transferred from one school district to another and the tuition paid by the high school district in which the pupil resides.

I have granted a number of permits to pupils to attend a four year high school other than the one in the district in which they live but always require that each pupil make application for permit of transfer before such is granted.

It would be well in every case if the County Superintendent, before granting permits of transfer of this kind, would consult the board of education of the school from which the pupil asks to be transferred. If the board of education agrees to pay the tuition of said pupil and grants said permit, it will be much better for all concerned. But where a permit of transfer of this kind is granted and the board refuses to pay the tuition there is necessarily some trouble over the matter and in some cases a lawsuit is the result.

I have in mind a case of that kind now. Four pupils living in a certain community high school district located in two counties have asked for permits of transfer to attend a school in Sangamon County. These permits of transfer were sent to the board of education in whose school district these pupils reside. The board of education decided that it would not pay the tuition. The board of education in whose district these pupils have received permits of transfer to attend has decided in case the other board refuses to pay the tuition to bring suit at the proper time and collect said tuition. I think the tuition can be collected.

It is entirely within the law for pupils who are graduates of the eighth grade and who live in non-high school territory to attend any recognized two, three or four year high school in the state and have tuition paid by the non-high school board of education of the county in which said pupils reside.

Difficulties Encountered in Following Out the Provisions of the Law.

1. Most four year high school boards of education refuse to grant permits of transfer to pupils living within their districts to attend another Community High School. Of course, the County Superintendent may grant such permits but in nearly every case the granting of that kind of permits makes trouble for him. It is a pretty good rule to follow for the County Superintendent to get the consent of the high school board where pupils reside before granting such permits.

2. In a number of cases that have come under my supervision pupils have attended school in another district than the one in which they live and have asked for permits of transfer to attend an outside four year high school after school had begun some two months or more. In cases of this kind where permits of transfer are denied the pupil he must either remain in the school in which he has entered and provide for his tuition himself or else return to the school in whose district he resides. In either case it makes some little trouble for someone.

3. In the matter of pupils attending a two, three or four year high school either in his own county or in any county in the state, there arises some difficulty in the matter of having his tuition paid. Some times a pupil enters school in his home district, has trouble with the teacher and therefore decides to quit and attend another school nearby. Is it fair to the school where he lives to allow him to transfer himself in such a manner? Suppose half of the school in a certain district had a falling out with the principal and decided to quit school and attend another. Is it fair to the non-high school board of education and also the district where pupils reside to allow pupils to do such things? I have a case like that in mind now. A pupil attended school for, say six weeks, withdrew and entered another nearby school. I have taken the stand in this matter that the pupil who does that sort of thing will not have his tuition paid by the non-high school board to the school who takes him in after he had already entered some other school unless the pupil receives a permit from the County Superintendent.

How to Remedy Difficulties in the Administration of the Law in Regard to the Transfer of Pupils.

I have come to the conclusion, after considerable experience with the law in the transferring of pupils from one district to another that the County Superintendent should insist on some very definite things before pupils enter high school in his county.

Sometimes a pupil who is not an eighth grade graduate enters high school and is accepted as a regular pupil. His name comes to the County Superintendent with the names of other pupils asking that tuition be paid.

Another trouble is that pupils, in giving the number of the district in which they live, invariably give the wrong number. Some do not know the number of the district in which they live.

They are not certain whether they live in non-high school territory or high school territory and their names come to us on requisition blanks from recognized high schools for tuition when the residence is given incorrectly. We have several cases of pupils living in four year high school districts whose names have been sent to this office asking that tuition be paid for their attendance at school and whose tuition was demanded of the non-high school board; cases of not knowing the number of district.

It seems that if the County Superintendent wishes to follow out a plan or policy whereby pupils may attend high school as the law provides and whereby he may be protected in his work in administering the law, that he should require all pupils, whether living in four year high school districts or any other high school district who wish to attend another high school, to make application to the county superintendent for permit of transfer before school opens or during the first week of school. That should be made mandatory. This does not apply however, to pupils attending four year high school districts who attend the home school, or to pupils living in districts that have a two or three year recognized high school.

Permits of transfer should be granted by the County Superintendent, or not granted, as the case may be, on receipt of application for permit of transfer. Pupils would then know early in the school year what school they were to attend. Then in case a pupil desired to change from one school to another, either with a good reason or without a good reason, he would be required to receive the transfer of such change from the County Superintendent of Schools. If the County Superintendent should require permits of transfer of this kind early in the year this would give the non-high school board some idea of the number of pupils who are attending school and whose tuition should be paid by the non-high school board of education and therefore the amount of tax levy to be made for the ensuing year. Where pupils are allowed to attend any recognized high school of their choice in the state it happens that the non-high school board is not aware of the attendance of such pupils in certain schools and therefore the board does not make the levy high enough to take care of the tuition that comes from these outside schools at the close of the school year in the spring.

It seems to me that the plan is perfectly feasible for the County Superintendent to require all pupils who are graduates of the eighth grade who attend high school outside of the district in which they live to obtain a permit of transfer from the County Superintendent of Schools before school opens in the fall or directly after it opens. This would protect the non-high school board, the county superintendent and the schools themselves.

The law provides further that the non-high school board of education shall pay the per-capita cost of students attending recognized high schools from non-high school territory. Some times the tuition in some of our large high schools seems to be excessive. The non-high school board of Sangamon County, three years ago, undertook to limit the amount of tuition to be paid for pupils attending recognized high schools from non-high school territory. The board was threatened with a suit by a high school board of education located in Sangamon and Morgan Counties. The non-high school board employed a lawyer to look up the matter in regard to tuition and were informed, after the attorney had taken the matter under advisement, that the board had no choice in the matter but were required to pay the per-capita cost of pupils attending high school from non-high school territory.

## The Value of Illinois Tests

V. T. Smith, Lexington, Illinois

The problem of the value of the Illinois Tests in the rural ungraded or village graded school is quite different from that of the value of the tests in the high school whether that high school be in the village or in the city. This difference in value is due to the different uses to which the tests may be put in the grades and high school owing to the fundamental differences between the two schools. These differences are quite pronounced. They are to be found in such activities as classification and promotion of pupils, reports to patrons, lesson assignments, technique of instruction, diagnosis of pupils and classes with a view to remedial instruction, educational guidance, vocational guidance, awarding of school honors, evaluation of school efficiency, supervision of study, assignment of pupils to extra school activities, rating of teachers, etc. Probably the greatest difference between the high school and the grades is in the nature of the subjects studied. In the grades the aim of study is the acquirement of skills in reading, writing, spelling, numbers, music, art, etc. The result is that the promotion or classification of pupils in the grades depends on the degree of skill which the pupil has acquired. On the other hand, in the high school we are not so much concerned as to the skills thus acquired (since the pupil is no longer studying those subjects) as we are in his ability to master the high school courses before him. So, except in certain exceptional cases, in the high school the problem of classification or promotion is not so much one of the skill which the pupil has already acquired as it is of his intelligence or ability to get further knowledge. There are certain prognostic tests available in the various fields which give us this information with more or less reliability. But as far as the Illinois Examination goes, I am convinced that its chief use in the high school is to find out the general intelligence of pupils.

Now if we know the general intelligence of pupils we are assisted in educational and vocational guidance, awarding of school honors, and supervision of study. I am aware of the fact that all of these four activities are under fire at the present time. Educational and vocational guidance are both accused of being extreme and undemocratic. Class honor systems are often justly criticized. At least one comprehensive report has been made attempting to prove that the results of study supervision are generally negative, especially with brighter children. It is not my purpose here to give arguments for or against these activities, but my opinion is that the criticisms do not prove that educational guidance and study supervision are wrong so much as it proves that the wrong technique is being used. In educational guidance we can at least tell the student what courses he should not undertake when we are sure that he has not sufficient intelligence to succeed in their study. Interest and industry can only atone for lack of mentality up to a certain limit.

In the same manner there is little doubt in my mind that the unfavorable reports concerning supervised study are due to wrong methods of study supervision. The study procedure of children needs to be analyzed and some method or methods devised for determining whether a child is studying correctly or not and if not just where his faults lie and how serious they are. Then the correction of those faults of study method will make study supervision worth while even for the brighter children.

And it is in this field that the intelligence test is of very great value in the high school. For it is only possible to determine the efficiency of a given method of study procedure when we know both the effect accomplished by its use and the learning ability of the person using it. If two methods are used by two persons having equal ability, and one of those methods is more effective than the other we are better able to compare the methods than if the students were of greatly differing ability. So in Lexington we have proceeded to give the mental tests to

all of the high school students with a view to educational and vocational guidance and to the freshmen and sophomores we have given the entire Illinois Examination with a view to experimenting in study supervision.

In our grade school we have used the Illinois Tests as a basis for reclassification in all grades. In 1919-1920 we gave the Holly Sentence Completion Test in all twelve grades except the 1st and 2nd. As a result of that test the next fall we promoted seven pupils from the 6th to the 8th grade. We were a little dubious as to how the community would take that act but the children thus promoted easily led in the eighth grade last year and are this year among the best we have in the high school freshman class. With that as a starter, we this year decided to carry the reclassification a step farther. So, as a result of the Illinois test, checked in each case by the pupil's record in school as indicated by the teacher's marks, we picked out the three or four best in each grade from the first to the sixth and promoted them two grades instead of one. That is, we took them out of the group in which they had been thus far thru their school attendance and placed them with the group one year further advanced. Out of a total enrollment of 250 grade pupils we thus double promoted 24 or about 10%. At first there was some protest from parents whose children were *not* included in this group, but the teachers and parents alike are now convinced that it was best for the school, the pupils advanced thru a grade and the pupils promoted in the regular way.

The teacher's marks for the first six weeks show only one failure in one subject by one of the children thus promoted. That subject was spelling and the boy who failed in spelling was in the best one-fourth of his class in everything else. Of the 24 pupils in question, 18 are in the best one-fourth of their classes and the other six are in the middle third. All are carrying their work strong and in the meantime their former classes are better off without them as they are so far superior to their former classmates. The age grade charts and the mental age grade charts show that up to this year it has been impossible for pupils in the Lexington Grade Schools to finish the eight grades in less than eight years, while many of the duller ones were retarded as much as three or four years. Altogether there is enough retardation among the 8 grades to be equivalent to 124 years. With an enrollment of 240 pupils this means an average of about 6 months per pupil for the entire school. If the pupils should average 8 years for the 8 grades then we are wasting one half year on the average. In Kansas City, where for a number of years they have had a flexible system of promotions, I am told that the average time required to finish the elementary school is only seven years. If the average time required should be 7½ years then we are wasting one year per pupil. This means that one year in eight is wasted. Since our grade school costs the district $16000 per year, this means an annual loss of $2000. And this is besides the fact that the child has lost one year which might have been spent in additional high school or college education later on. Our reclassification of pupils prevents this loss as well as benefitting the school.

Besides using the test scores as a basis for reclassification, we have used them for giving information to the public as to the comparative standing of our school with other schools of the state. We also use the results of the tests in evaluating the success of the various teachers. For instance, we have one grade made up of pupils which would ruin any teacher's reputation as a teacher if there was no way of knowing the low mentality of that group of pupils. Also our teachers are urged to become familiar with the records of the tests and thereby to become more sympathetic with those pupils who earn poor school marks but who have relatively high achievement in comparison with their learning ability. Thus, in sending out the six week or semester failure notices to parents we do not find fault with those who are doing all that should be expected of them. On the other hand, if the child has a high degree of ability, we make a special effort to find out why he has failed. We have probably as yet not utilized the full value of the Tests, but in my opinion they have already proved of considerable worth to our school.

## The Opportunity of the Small High School

Professor E. H. Cameron, University

Back of the educational practices of any people, lies the answer which that people has made to a fundamental question of government. This question centers about the relationship of the individual to the state. At all times and in all places where education has been directed along well-organized lines, the view has been held that the preservation of the state is the most important motive for undertaking such work and the most important result to be achieved. On the other hand, the degree to which the interests of the individual as over against those of society must be regarded as vital, has been a matter of much difference of opinion as reflected both in theory and practice.

The most distinctive feature of education in the United States as compared with that of other countries is the attempt we are making to give secondary training to the bulk of our young people. However short we may fall of realizing the ideal of a high school education for all, there can be little doubt that this is the goal which we have set for ourselves and if the rate of increase in high school population of recent years is maintained, this goal will be reached in approximate degree in the not far distant future. Recent writers have pointed out the grave financial responsibility which a nation assumes that attempts to provide a free high school education for all its youth who present themselves. Others have raised the question of whether we are not going too far in pressing the formula—"if the high school does not fit the pupil, it must be made to fit."

One can scarcely wonder at the skepticism which is expressed by some with regard to the capacity of the great bulk of children to profit from high school training when it is remembered that the median mental age of soldiers examined during the war was found to be but thirteen years. Our usual view is that it takes a degree of intelligence expressible by the mental age of fourteen to finish the work of the elementary school successfully. Working the matter out from the standpoint of the high school Terman and Proctor have found that our present standards for high school graduation demand a grade of intelligence which debars about 30% of all children from becoming graduates. It seems, therefore, that our high school standards must be lowered or else we must frankly face the fact that it is a waste of time, energy and money to attempt to give an education higher than that of the elementary school to a large number of those who enter our school systems.

On the other hand, lying back of all our educational organization and procedure lies the deep-seated conviction that in a true democracy like ours (1) there must be a high general level of educated opinion in order to insure the stability of the republic; and, (2) every individual member of such a democracy should, to the degree that it is possible for the state to provide for it, have equal opportunity with every other, regardless of the social class to which he belongs.

The question may fairly be raised whether an elementary school education can be regarded as adequate to meet either of these demands. During the elementary school period the child is, as we are accustomed to say, coming into possession of the tools of knowledge. The vast treasures of the spiritual inheritance of the race is, at the end of this period, only beginning to be unlocked. If he leaves school at this time and is thrust into the maelstrom of social and economic competition, these tools are in large measure never used. In the large majority of cases they will be put to use only to the degree to which they are adapted to the relatively narrow field of work in which each individual finds himself engaged. While he has the tools in his possession, they are rarely used and then only for odd jobs which he cannot escape. No wonder, therefore, that they become rusty.

On the other hand the youth who continues his school course beyond the elementary period will, if the work is successful, use the tools of knowledge at least

sufficiently not only to give a hint of how to use them successfully but to appreciate their products. The years of high school age seem by their nature to be especially adapted to that broadening of sympathies and interests, appreciation, knowledge and skill which are necessary for the proper understanding of himself as a thread in the social fabric, and for his own self-realization.

It is, therefore, no wonder that we have dotted all over this land of ours the small high school for it stands as a monument of the faith of the American people in education as the greatest factor in the realization of a true democracy where opportunity may knock at the door of the humble and poor no less than the proud and the rich. It represents the struggle at great odds to realize an ideal which we can scarcely be said to have begun to approximate.

There is surprisingly little in the voluminous literature on secondary schools which treats of the small high school and its problems. Perhaps it is thought that such schools are not worth consideration, or that their problems are too difficult to solve so long as they remain small high schools, or perhaps it is only because the problems of the larger schools overshadow them to such an extent in complexity and scope, that they do not appeal to the average writer on the subject. Nevertheless, the importance of the small high school can hardly be overestimated and, furthermore, whatever may be our desires in the matter of doing away with it, it is like the poor, always with us, and will be for a long time to come.

From the annual register of the Illinois School Directory from 1920-21, I have compiled the following statistics with reference to the small high schools of Illinois.

67% of all high schools of this State had an enrollment of 100 or less.

50% of all high schools of this State had an enrollment of 50 or less.

30% of all high schools of this State had an enrollment of 30 or less.

There were 14 one year high schools in Illinois

There were 192 two year high schools in Illinois

There were 138 three year high schools in Illinois

making a total of 36% of all high schools of the State which have a program of three years or less.

22% of all high schools have but one teacher

36% of all high schools have but two teachers, or fewer

51% of all high schools have but three teachers, or fewer

63% of all high schools have but four teachers, or fewer

Outside of Chicago almost 25% of the high school pupils of the State are in high schools, whose enrollments are fewer than 100 pupils.

One-half of that number are in high schools where the number of teachers are four or fewer.

In view then of the importance of the small high school, let me suggest one or two ways in which it seems to me such schools can best meet their opportunities. Some of the things I shall say may seem to you to be debatable, but I am convinced that in the long run they will be found to be sound.

The small high school should be not too ambitious; it should aim at thoroughness rather than completeness. There is a great temptation to attempt more than can be legitimately expected and to attempt more than can be properly and thoroughly done. For example, I am quite convinced that many small school systems employ more teachers than their limited resources could support, if they employed teachers whose training, experience and inherent capacity are such as to warrant the expectation of good results. A few poor teachers in a large city school system will not affect greatly the general results and this large system is the place for the young teacher to get his training. Instead of the city drawing as it now does the successful teachers from the rural districts the reverse should be the

case. I know you will admit this and say we are facing here a condition and not a theory, but while I admit this, I maintain that it would be better to cut down even the small number of teachers on the staffs of our small high schools as they now exist and pay those that remain higher salaries. I will not say that no teacher is better than a poor teacher tho I believe it may sometimes be true, but certainly one good teacher is better than two poor ones, and I verily believe that one excellent teacher is better than two good ones. The reason for this is that without a good teacher the small high school cannot possibly meet its unique opportunity—an opportunity which comes from the direct personal influence of the teacher upon the individual student, which can be exerted when numbers are small to a degree not possible in larger systems.

Probably the most outstanding fact that has been revealed by the application of psychological study and mental tests to the field of education during recent years has been the wide range of individual differences in the capacities of pupils. Of course this fact has always been known but these studies have forced us to recognize their great significance for education, and have emphasized the absolute necessity for a much greater degree of recognition of the individual needs of pupils. The small high school offers an opportunity for putting into effect all of the significant phases of supervised study, the socialized recitation, and advancement at a rate commensurate with the individual's powers, without resorting to the machinery that is necessary to ensure their success in the larger schools.

Probably most of us have had the good fortune to have had contact with small high schools where the spirit and atmosphere of all these so-called newer methods of education prevailed. Personally, I shall never cease to be thankful for my own high school days, spent in just such an atmosphere in a school where there was but one teacher who prepared boys and girls for college work and other branches of higher learning. In that school I came under the influence of the best teacher I have ever known, under conditions which were ideal, because the teacher used his opportunity for close personal contact with his pupils, not only to store their minds with knowledge, but to instill habits of a higher order—habits of thoroughness, industry, honesty, self-reliance and their like that are the greatest assets to be acquired from school life. Such a teacher can become the greatest single force in any community for good.

If the first requisite for the small high school in meeting its opportunity is to concentrate its resources in order to secure good teachers even if the number of teachers has to be reduced, the second requisite seems to me to be to adopt less ambitious courses of study. The small high school cannot afford to compete with the large school in the variety of its curricula. It should teach only what it can teach well and thoroughly, and frankly face its own limitations in this respect. This may be done with the less reluctance if it is remembered that the habits and ideals mentioned in the last paragraph are more important than specific information about this or that subject.

Please don't misunderstand me at this point. I have every sympathy for and interest in the present day critical attitude towards traditional curricula. I believe great gain will result from our efforts to determine what courses and what parts of courses are most useful in furthering the legitimate aims of education. But I am sure you will agree with me that we have not yet arrived at the point where we can state with any degree of definiteness in what ways our traditional curricula need to be revised and modified.

In the meantime, it appears to me that, especially in the small high school where, from the very nature of things, the offerings in subject matter must be restricted, the one important thing to be safeguarded is that all courses given should be thorough. In a number of cases I have had the misfortune of seeing courses of study in high schools changed at my own advice, and of finding that my advice was probably unsound. The newer types of courses which I advocated were taught in so feeble a manner that it was clear that it would have been better

to have retained the subjects which were at least well taught. I am willing to commit myself to the doctrine of formal discipline to the extent of maintaining that the general values of all courses of study are the most important. These general values cannot be realized where the courses of study are pursued in an unorganized and slip-shod way.

## 7. ENGLISH SECTION

The fifteenth annual meeting of the Illinois Association of Teachers of English convened in the Congregational Church at Champaign on Friday, November eighteenth at nine o'clock. After calling the meeting to order, the president, Miss Essie Chamberlain, appointed a nominating committee consisting of Mr. Widger of DeKalb, Miss Wilbur of Rockford, and Miss Morris of Champaign. After listening to the reports of the secretary and the treasurer, the session proceeded to the reading and discussion of papers.

The forenoon was entirely given to the presentation and discussion of the report of the committee on curriculum reconstruction. The chairman, Miss Chamberlain, submitted the following report:

### Outside Reading Interests of Boys and Girls

### By Essie Chamberlain

A revival of interest has been accorded the problem of outside reading, if one may judge from the comment made by the 225 English teachers and librarians who have contributed material on which this study is based. From them came this frequent comment, "We are now working on our Outside Reading Course, and our lists are only tentative." An examination of the files of the English Journal for the last five years shows that studies on this subject have been infrequent. This study, "The Outside Reading Interests of Boys and Girls," has for its underlying proposition that men and women, boys and girls, when left to their own guidance in reading, *are* going to read as their *interests* dictate, and not as they think the ghost of some well meaning but misguided teacher would suggest. Whether you or I read the Atlantic Monthly or the American, Well's Outlines of History or Pollyanna, in our leisure moments, is entirely a matter of our interests. Montaigne says, "I do not search or toss over books but for an honester recreation to please and pastime to delight myself." Any list then, for use with high school students should be based upon interest and variety, since our interests are so diverse. Our aim should be, then, to discover student interests, and direct them so that first of all he acquire the habit of reading. Professor Phelps says, "It is better to have a youngster read trash than to have him read nothing at all." Once the reading habit is fixed, the student should grow in ability to recognize the proper rating of books.

For the purpose of determining boy and girl interests in outside reading, a questionnaire was mailed last spring to English teachers and librarians which sought to find out the books most successful in Outside Reading. Answers were received from two hundred twenty-five teachers and librarians from twenty-three states in the Union. The first part of the report will consist of a discussion of the tabulated material from teachers and librarians; the second half of the report will consist of student judgments based upon interest from 1040 students in the Oak Park High School with a comparison of the two sets of judgments.

The Committee on Curriculum Reconstruction for English, Essie Chamberlain, Oak Park, Chairman, Bertha Carter, Oak Park, Susan Wilcox, Springfield, making this report, asks for *discussion* and *criticism* from any one interested in this problem. The material is empirical. The Committee individually or as a whole, pretends to no authority on the subject. While there are many Outside Reading lists, compiled on varied plans, and for varied purposes, may there be need for yet one more, including material not contained in existing lists? Might a more helpful list be compiled for the teacher of the small school with limited library facilities? Are graded lists advisable? How most effectively manage book reports and credits? Free discussion will aid the Committee in determining the character of the final report.

Question 1 of the questionnaire, "List with authors and titles not more than 8 books you have found most successful for Outside Reading for each year, placing "B" after books which have especial appeal to boys, placing "G" after books which have especial appeal to girls," called forth about eight thousand titles. Miss Bertha Carter, Oak Park High School Librarian, of the Committee, compiled the extensive material on this question, and her criticisms have been helpful throughout. Table A* summarizes the answers for English I, Table B for English II, Table C for English III, Table D for English IV. These tables include only those books most frequently mentioned. Table E shows certain books frequently mentioned in each of the four years with totals. The summaries for Question 1 show that fully 75% of all books recommended are fiction. Table F shows the distribution of non-fiction material.

TABLE F—Non-fiction Mentions

| Class | Eng. I | Eng. II | Eng. III | Eng. IV | Total |
|---|---|---|---|---|---|
| Biography | 112 | 147 | 102 | 62 | 423 |
| Poetry | 9 | 13 | 18 | 34 | 74 |
| Drama | 11 | 27 | 54 | 146 | 238 |
| Essays | 9 | 9 | 51 | 65 | 134 |
| Travel | 20 | 36 | 11 | 9 | 76 |
| History | 6 | 11 | 13 | 15 | 45 |
| Miscellaneous | 7 | 15 | 14 | 29 | 65 |
| Total | ... | ... | ... | ... | 1055 |

Biography receives generous attention in the first three years. Its absence in the fourth year may be accounted for by the fact that much time in Senior English is taken up with collateral reading in the novel, drama, poetry. Little attention is given Poetry until the last year, where again collateral work may explain its strength. So might we infer from the Essay mentions in English II and English III. Travel and History material is most meager throughout. English courses have been severely criticized by educators for their paucity in Travel, History, and Science. An interesting question arises as to the responsibility of the English teacher. If one teaches science or history, should it be his pleasant task to know the literature of his subject, and to see that his students read this background material, or should all this be dumped on the ever growing load of the English specialist? The outstanding fact to note in studying all of these Tables, is the abundance of Fiction, and Biography. Are the other forms important enough for us to stress? Is there much interesting material on our list that we are failing to recommend?

A further question provoked by these Tables is the question of emphasis. In what year should we stress the various literary types? How far do these recommendations show a "feeling" on the teacher's part that certain books belong in certain grades?

*Tables A,—E, I, J, M, N, and P are to be found at the end of this paper.

These Tables suggest further the question of boy and girl interests. That there are certain books which especially appeal to girls is true. Little Women, Secret Garden, Ramona, Lorna Doone, Jane Eyre, are typical of this class. Boys, too, have their prime favorites, as Tom Sawyer, Treasure Island, Call of the Wild, and Huckleberry Finn. Table G shows the teacher judgments of boy and girl interests on a few of the most frequently mentioned titles.

Table G. Boy and Girl Interests

| Author | Title | Boy | Girl |
|---|---|---|---|
| Clemens | Tom Sawyer | 63 | – |
| Stevenson | Treasure Island | 56 | – |
| London | Call of the Wild | 53 | 1 |
| Twain | Huckleberry Finn | 31 | 1 |
| Cooper | Last of the Mohicans | 19 | – |
| Stevenson | Kidnapped | 18 | 1 |
| Kipling | Captains Courageous | 18 | – |
| Stevenson | Dr. Jekyll and Mr. Hyde | 18 | – |
| Alcott | Little Women | 1 | 41 |
| Burnett | Secret Garden | – | 30 |
| Jackson | Ramona | – | 25 |
| Keller | Story of my Life | – | 23 |
| Bronte | Jane Eyre | – | 20 |
| Wiggin | Rebecca of Sunnybrook Farm | – | 18 |
| Barrie | Little Minister | – | 14 |
| Eliot | Mill on the Floss | 1 | 14 |
| Austin | Pride and Prejudice | – | 14 |
| Blackmore | Lorna Doone | 1 | 13 |

One might question why these boy and girl interests differ so if the above judgments are correct. The love element is lacking in the boy group; it is present in seven of the ten books preferred by girls. My experience does not explain why boys are not interested in The Little Minister, nor why girls would not appreciate Dr. Jekyll and Mr. Hyde. Certain deep rooted prejudices may keep a boy away from books enjoyed by girls, while many girls read eagerly so called "boys' books." The information does show that by far the greater number of books appeal to both boys and girls.

The list for Freshmen brings up the question of overlapping material between the elementary and high school. Of the 49 titles given in English I, eighteen are recommended as grade books by the Wheeler List compiled by the Youngstown schools and library:—Little Women, Robinson Crusoe, Christmas Carol, Men of Iron, Hans Brinker are in this group. This list presupposes, of course, a careful supervision of reading work in the grades. The following tabulation in Table H shows books and authors receiving most mentions from teachers and librarians. How far do you agree with these judgments, how far differ?

Table H. Authors and titles most frequently mentioned

| Author | Mentions | Title | Mentions |
|---|---|---|---|
| Clemens | 187 | Tom Sawyer | 122 |
| | | Huckleberry Finn | 65 |
| Stevenson | 52 | Treasure Island | 96 |
| | | Kidnapped | 56 |
| Dickens | 114 | Oliver Twist | 60 |
| | | David Copperfield | 54 |
| London | 97 | Call of the Wild | 97 |
| Churchill | 95 | Crisis | 95 |
| Jackson | 78 | Ramona | 78 |

| Author | Mentions | Title | Mentions |
|---|---|---|---|
| Wister | 72 | Virginian | 72 |
| Blackmore | 71 | Lorna Doone | 71 |
| Keller | 66 | Story of my Life | 66 |
| Wallace | 63 | Ben Hur | 63 |
| Cooper | 60 | Last of the Mohicans | 60 |
| Eliot | 60 | Mill on the Floss | 60 |

Questions II and III of the questionnaire are as follows: II. For those students who have read little, what books have you found especially good to awaken an interest in reading? III. What books do you use to "bridge the gap" between bad and good reading? Tables I and J record the summaries on these questions showing all the titles mentioned five or more times. The most conspicuous fact to be noted is the recurring of a few authors and titles on all lists, Twain, London, Stevenson, Alcott, Cooper, Churchill, Kipling, Tarkington, wield the magic pen of interest, judging from all these lists. As was to be expected, the books recommended in II and III are simple. It is worthy of note that there are teachers who recommend Gene Stratton Porter, Eleanor Porter, Zane Grey, and Harold Bell Wright for book reports, for stimulating interest and for "stepping stones." One might ask, "Where do we go from here?" Taking stock of these lists recommended by teachers and librarians, these questions arise: Do these books form the nucleus of what is best for students? Are the standards high or low? Are these books the ones liked by pupils? Will the influence of these books make good citizens? William McAndrew says, "Literature teachers are killing literature, they are the most conscientious, hard working, well intentioned murderers you can imagine. They are faithful, loyal, hired assassins." Will these recommendations cause students to read more and better literature, or will they discourage the habit of reading? One teacher recommends books, "depending on the degree of badness of previous reading, its character, age of the patient, and sundry other data. A book with much action must take the place of Alger, and Henty." Another says that "Mary Roberts Rinehart, Kathleen Norris and Zane Grey lead from Ethel Dell and Robert Chambers to still better things. Service leads to Masefield, to Noyes, and to still better poets." If one has skill in "diagnosing" the case, the pupil who has "thrilled" over the Tarzan books, may find more satisfaction in Seton if he learns that Seton is accurate, and that Burroughs only knows the jungle imaginatively. Above all, teachers should recommend stories of love, mystery, adventure, at the time when interest is strongest, but they should be careful not to kill the book by over-recommendation.

That we might check student interests, the questionnaire below was given to all classes in the Oak Park High School. Pupils were asked not to sign names in order to assure sincerity in the answers.

*Questionnaire.*

Place a cross after the words indicating your rank and sex.

Do not write your name.

| | | |
|---|---|---|
| Freshman | Junior | Boy |
| Sophomore | Senior | Girl |

1. What book read by you during the past year *voluntarily outside of your school work* did you enjoy most?
   Explain briefly your preference.
2. What book read by you during the past year for book reports for English, did you enjoy most?
   Explain briefly your preference.
3. In what way has the outside reading for English influenced your reading habits?

Table M summarizes I, Table N summarizes II, while Table P shows the totals of non-fiction books, both voluntary and required. All the titles mentioned by students as their *first* choice should have weight with us. The voluntary reading list for Freshmen is scattered, with innumerable single titles, and one wonders at the grade school guidance. These tables do not show the wide variety, since single mentions are not shown. There are 74 unidentified titles in the list for Freshman girls. At least half of the titles on the voluntary lists might be used as book reports, but one finds The Girl of the Limberlost, Elsie Dinsmore, and Pollyanna with our Freshman girls, while Tarzan the Terrible, and Zane Grey beguile the boys. At least 75% of the voluntary reading done by our Sophomores, as shown in Table M, is reputable. It is a good sign to see the way young readers enjoy Edward Bok's autobiography. In the Junior and Senior years, fully 50% of the titles are on our required lists. Recency and the best seller yield influence here with Main Street, and This Side of Paradise.

There is not time to go into a study of boy and girl interests. Again there are many books which have universal appeal. Perhaps the most significant thing in this record of books read voluntarily by our students is the fact that more than half of the books they read voluntarily are on the required lists at some place in the course. There is a tradition among many students that having to read a book spoils it. At least a good many of our students have convincingly placed approval on some required books. That 262 titles of non-fiction have been named as most enjoyable by 1040 students is significant. The explanation of preferences so frequently was, "I learned for the first time that a non-fiction book was enjoyable."

That interest in the author of a book is some sign of a mature reader is shown in these student judgments. Over a hundred titles are given by Freshmen with no author, and many of them are books unfamiliar to a mere English teacher. These stray titles diminish in second and third year, while in the last year there are not more than fifteen. The elimination of "series" books is substantially accomplished in a year. The Girl Scouts at Dandelion Camp, Ruth Fielding with the Gypsies, Tom Swift in Captivity, The Boy Scouts in Glacier Park, do not lure our Juniors with their similar situations. A Junior boy in a theme on reading voices his protest against Barbour in this way, "My dislikes include principally those so-called 'college and school' stories. 'It was his last game for old Fairview. He clutched the ball on his own one-yard line and tore down the field, making a touchdown just as the whistle blew. Then a shrieking student body carried him from the field while the brass band played the dear old song.' After wandering behind Ralph Henry Barbour through a maze of hazy adventures concerning, perhaps, to use a fictitious title, 'Four-Cousins-in-a-Catboat,' you emerge yawning and dimly asking yourself, 'what is it all about.' "

Such lurid titles as The Bride of a Moment, The Dead Secret, The Hidden Eye, His Official Fiancee, The Room with Tassels, Wanted a Husband, while familiar with some Freshmen we try to teach, suggest pastures new to our English teachers. Thelma, St. Elmo, Peck's Bad Boy, and She, after these many years, are still read. While many of our students read reputable material, we have yet virgin fields in literary taste for which we need "stepping stones." From the number who place themselves on record as never reading anything voluntarily, we need a stimulating list with which to interest those who refuse to read unless trapped by the demand for a book report. One questions too, the reading sense of the girls who read, A Tale of Three Cities, and Jane *Ire*, while Jane Addams herself might question the effect her book had upon those girls who read *One* Year at Hull House, and *Forty* Years at *Hull* House. Here a "fifty fifty" basis brings one near to the truth. The reasons for preferences expressed by the students are most fascinatingly human documents. If anyone questions the honesty and sincerity with which these students expressed themselves under the freedom of anonymity, he has but to read the papers themselves, often brutally frank in eagerness to settle a long standing grudge against "forced feeding," sometimes

openly critical of our reading lists which reflect the woeful tastes of English teachers. While the preferences are widely varied yet there are certain fundamentals stressed. Senior boys demand these qualities in books they read, action, humor, historical facts, fast moving plot, mystery, Western, outdoor, and sea life. While the Senior girls demand these too, they frequently mention the style of the author, and an interest in types, enjoying the comparison of style. A Senior boy who mentions Slosson's Creative Chemistry for voluntary reading explains his preference for Kenilworth by saying, "It has a little chemistry in it." Students in the earlier years enjoy books because in many cases the book is "easy to understand," an implied criticism of our inability to measure the pupil's ability and give him what he can understand is in this. The universal striving after an ideal is recognized in the large vote given the books which allow the hero or heroine to rise in spite of all adverse circumstances. In working with a group of "hookey" boys some years ago who proclaimed a fondness for Alger's Toby Tyler, I found that the thing these street waifs liked was that Toby had the chance to "make good." An expression of these student preferences has made me feel that English teachers must read their recommended books with the eyes and sympathies of the boy of today. Montrose J. Moses in The Literary Review for November, 1921, discusses interestingly the divergence of mature and adolescent judgments on books and arrives at the conclusion that we must contrast their inheritance with ours. The children are up-to-date in their inheritances. He suggests that a Boy Scout might think some of Crusoe's discoveries very commonplace. In other words, the youngster of the present has at his finger tips more knowledge than these standard writers probably had about the mechanics with which adventures are surrounded.

More boys than girls say that they have been influenced in no way by our outside reading course. There are three types of attitudes. The first flee from such contamination with remarks of this sort, "Made me believe that books English teachers recommend are not interesting," "Made me wish for books *not* on the list," "To avoid authors mentioned by English teachers," "Made me appreciate a snappy magazine story." Happily these are not frequent. A second group of students has not been influenced because they have always read, or because father or mother read with them. One could construct the home atmosphere inevitable to bring about these preferences. Walpole's Fortitude, Strachey's Queen Victoria, Wells' Outlines of History, Marcus Aurelius' Meditations demand more background than the school can give and these were mentioned as best books of the year. The third group brings compensation to our efforts because many admit that they read more and better books, that they have learned the "speeding up" process in reading. Too, they learn to enjoy certain authors and read others of his works as Dickens, Dumas, Scott. One boy "draws three or four books from the Chicago Public Library" because of the interest started in school. Another read "almost 200 in the last year." Compare the chance these boys have for enjoyment in leisure time with the boy who says that The Harvester is the only book that he ever read voluntarily. Students of the last group have learned that "books of fiction are not the only interesting ones." One student says, "Outside reading has alienated me from cheap novels and formed a liking for essays and non-fiction." A Junior girl speaks thus:

"When I was young, we'll say in about my freshman year at high school, the word 'essay' used to send shivers up my back, literally. I don't believe I ever truly enjoyed a book of non-fiction (when I was a freshman). An essay meant to me something dry and uninteresting. I thought of it as like a writing on "The History of Philosophy" or, I might say, "The Orations of Cicero." I never could pick up a book of non-fiction without a shudder. But one day, my English teacher solemnly announced to the class that the next book report was to be one of non-fiction. I gave an inward groan, and prepared myself for suffering. I got a book, "Out of the Dark," by Helen Keller. It sounded "spooky" and mysterious, so I thought it wouldn't be so bad. What was my surprise and—I shall say it—delight when I found out the true contents of that book. It was

not only "Out of the Dark" for Helen Keller, but also for me. I have since then enjoyed immensely any non-fiction book, and I will say with truth that I have read more of them than of fiction."

The high school years are important, because if a love for reading come not then, the individual in all probability never will develop an interest. Some of us look back to those days as most fruitful in giving a rich background of reading, and when the lean years come, we sing the Ballade of Lack of Time. Are our students going to be able to sing?

## BALLADE OF LACK OF TIME

By Cuthbert Collins

There is a store of little scraps of things
Hid in dim, cobwebbed aisles within my head—
A dusty pile of half-rememberings,
The doubloons and the silks of books I've read
Most precious goods well wrought by men long dead,
Or fellows who still struggle with life's skein.
Tho all should be ranged neatly there, instead
A dusty treasure-chest lies in my brain.

Here is a jeweled token Homer brings,
And there a ruby phrase of Wilde glows red;
In the far corner, glints of seabirds' wings
Which Conrad garnered as a slim craft sped;
A bright, keen diamond word which Johnson said;
Sweet, perfumed tapestries from old Montaigne—
The cloths are faded and the gems lack thread;
A dusty treasure-chest lies in my brain.

There are the silver sounds of silver strings
Which Swinburne's ringing touch to music led;
There glimmer Dumas' heavy signet rings;
The thoughts which flamed through Henley's hours of dread;
The great ideals for which men lived and bled,
Odd pieces of great joy and bitter pain,
Mixed with the cheers upon which smiles are fed—
A dusty treasure-chest lies in my brain.

L'envoi

Heigh ho! These things are in disorder spread;
But some day I will sort them out again;
Meanwhile, as I have got to earn my bread,
A dusty treasure-chest lies in my brain.

## Teachers' Recommendations

TABLE A. ENGLISH I

| Author | Title | Total | Boys | Girls | Boys & Girls |
|---|---|---|---|---|---|
| Clemens | Tom Sawyer | 108 | 63 | | 11 |
| Stevenson | Treasure Island | 84 | 56 | | 4 |
| London | Call of the Wild | 74 | 53 | 1 | 8 |
| Clemens | Huckleberry Finn | 52 | 31 | | |
| Alcott | Little Women | 48 | 1 | 41 | |
| Cooper | Last of the Mohicans | 35 | 15 | | 6 |
| Keller | Story of my Life | 34 | | 23 | |
| Stevenson | Kidnapped | 32 | 18 | 1 | 3 |
| Burnett | Secret Garden | 32 | | 30 | |
| Kipling | Captains Courageous | 28 | 18 | | 2 |
| Wiggin | Rebecca of Sunnybrook Farm | 22 | | 18 | |
| Dickens | Oliver Twist | 21 | 6 | 1 | 5 |
| Clemens | Prince and the Pauper | 21 | 6 | 3 | 6 |
| Fox | Little Shepherd of Kingdom Come | 20 | | 9 | 3 |
| Hale | Man Without a Country | 19 | 9 | | 3 |
| Eggleston | Hoosier Schoolmaster | 19 | 4 | 3 | 3 |
| Aldrich | Story of a Bad Boy | 14 | 7 | | |
| Jackson | Ramona | 14 | | 11 | 1 |
| Tarkington | Penrod | 13 | 11 | 1 | 1 |
| Montgomery | Anne of Green Gables | 13 | | 10 | |
| Dickens | David Copperfield | 12 | | | |
| Defoe | Robinson Crusoe | 12 | 7 | | 1 |
| Seton | Wild Animals I Have Known | 12 | 10 | | 1 |
| Cooper | Spy | 11 | 5 | 1 | |
| Hughes | Tom Brown's School Days | 11 | 5 | | 1 |
| Porter | Freckles | 11 | | 6 | 3 |
| Kipling | Jungle Books | 11 | 3 | | 4 |
| Bennett | Master Skylark | 10 | 3 | 3 | 1 |
| Stevenson | Black Arrow | 10 | | | |
| Washington | Up From Slavery | 8 | 2 | 1 | 2 |
| Pyle | Merry Adventures of Robin Hood | 8 | 4 | 1 | 1 |
| Ollivant | Bob, Son of Battle | 8 | 3 | | 1 |
| Grenfel | Adrift on an Ice Pan | 8 | 4 | | 1 |
| Cooper | Deerslayer | 8 | 2 | | |
| Richards | Florence Nightingale | 8 | | 7 | |
| Scott | Ivanhoe | 8 | 6 | 1 | 1 |
| Porter | Girl of the Limberlost | 7 | | | |
| Dodge | Hans Brinker | 7 | 1 | 2 | 2 |
| Craik | John Halifax | 7 | | | |
| Stowe | Uncle Tom's Cabin | 7 | | 1 | 2 |
| Wister | Virginian | 7 | 1 | 2 | |
| Rice | Mrs. Wiggs of the Cabbage Patch | 7 | | 5 | 2 |
| Antin | Promised Land | 6 | | | |
| Blackmore | Lorna Doone | 6 | | | |
| Pyle | Men of Iron | 6 | | | |
| Dickens | Christmas Carol | 5 | | | |
| Seton | Lives of the Hunted | 5 | | | |
| Wallace | Ben Hur | 5 | | | |
| Scott | Talisman | 4 | | | |

TABLE B. ENGLISH II

| Author | Title | Total | Boys | Girls | Boys & Girls |
|---|---|---|---|---|---|
| Churchill | Crisis | 41 | 5 | 5 | 8 |
| Jackson | Ramona | 37 | | 25 | |
| Wister | Virginian | 33 | 5 | 4 | 6 |
| Keller | Story of My Life | 24 | | 17 | |
| Blackmore | Lorna Doone | 23 | 1 | 13 | 4 |
| Stevenson | Kidnapped | 21 | 18 | | |
| Cooper | Last of the Mohicans | 20 | 14 | | |
| Dickens | David Copperfield | 19 | 4 | 4 | 2 |
| Stevenson | Dr. Jekyll and Mr. Hyde | 18 | 17 | | |
| Barrie | Little Minister | 18 | | 14 | |
| Wallace | Ben Hur | 17 | 2 | 3 | 5 |
| Dickens | Oliver Twist | 17 | 4 | 4 | 4 |
| London | Call of the Wild | 16 | 11 | | 2 |
| Scott | Ivanhoe | 16 | 5 | 5 | 3 |
| Dickens | Tale of Two Cities | 15 | 3 | 2 | 3 |
| Washington | Up From Slavery | 15 | 5 | | 1 |
| Antin | Promised Land | 15 | 1 | 6 | 1 |
| Eliot | Mill on the Floss | 15 | 1 | 5 | 1 |
| Fox | Little Shepherd of Kingdom Come | 13 | 1 | 7 | |
| Churchill | Richard Carvel | 13 | 5 | 1 | 1 |
| Tarkington | Gentleman From Indiana | 11 | 4 | 4 | 1 |
| Stevenson | Treasure Island | 11 | 4 | 1 | 1 |
| Riis | Making of an American | 11 | 2 | | |
| Clemens | Tom Sawyer | 11 | 7 | | 2 |
| White | Blazed Trail | 11 | 6 | | 1 |
| Cooper | Spy | 11 | 6 | | 1 |
| Lytton | Last Days of Pompeii | 10 | 3 | 2 | 1 |
| Clemens | Huckleberry Finn | 10 | 6 | | |
| Bronte | Jane Eyre | 10 | | 9 | |
| Eggleston | Hoosier Schoolmaster | 10 | 1 | 2 | 1 |
| Muir | Story of My Boyhood | 10 | 6 | | |
| Stowe | Uncle Tom's Cabin | 10 | | 2 | 4 |
| Roosevelt | Letters to his Children | 9 | 2 | 1 | 1 |
| Craik | John Halifax | 9 | 1 | 4 | 1 |
| Hawthorne | House of Seven Gables | 9 | | 6 | |
| Tarkington | Penrod | 8 | 4 | | |
| Scott | Kenilworth | 8 | 2 | 1 | 1 |
| Ollivant | Bob, Son of Battle | 8 | 5 | | |
| O. Henry | Four Million | 8 | 2 | 1 | 3 |
| Scott | Talisman | 8 | 5 | 1 | |
| Goldsmith | Vicar of Wakefield | 8 | 1 | 4 | |
| Clemens | Prince and the Pauper | 8 | 3 | 1 | |
| Dumas | Count of Monte Cristo | 7 | 2 | | |
| Dumas | Three Musketeers | 7 | 3 | | |
| Doyle | Adventures of Sherlock Holmes | 6 | 4 | | |
| Cooper | Deerslayer | 6 | 4 | | |
| Duncan | Dr. Luke of the Labrador | 6 | 2 | | 1 |
| Conner | Man from Glengarrie | 6 | 3 | 1 | 2 |
| Austin | Pride and Prejudice | 6 | 4 | 4 | |
| Aldrich | Marjorie Daw | 6 | | 3 | |
| Kipling | Light That Failed | 6 | 1 | 2 | |
| Richards | Florence Nightingale | 6 | | 5 | |
| Johnson | Stover at Yale | 5 | 4 | | |
| Eliot | Silas Marner | 5 | | 1 | |
| Verne | Twenty Thousand Leagues Under the Sea | 5 | 3 | | |

| Author | Title | Total | Boys | Girls | Boys & Girls |
|---|---|---|---|---|---|
| Kipling | Captains Courageous | 5 | 3 | | |
| Kipling | Kim | 5 | 2 | | |
| Swift | Gulliver's Travels | 5 | 3 | | |
| Fox | Trail of the Lonesome Pine | 5 | 1 | 1 | 1 |
| Hope | Prisoner of Zenda | 5 | 2 | | |
| Ford | Janice Meredith | 5 | | 4 | |
| Irving | Sketch Book | 5 | 1 | 1 | 2 |

TABLE C. ENGLISH III

| | | | | | |
|---|---|---|---|---|---|
| Churchill | Crisis | 33 | 2 | 2 | 8 |
| Wallace | Ben Hur | 29 | 8 | 2 | 2 |
| Blackmore | Lorna Doone | 28 | 6 | | 2 |
| Bronte | Jane Eyre | 24 | | 20 | |
| Eliot | Mill on the Floss | 23 | 1 | 14 | 2 |
| Wister | Virginian | 22 | 10 | 2 | 3 |
| Jackson | Ramona | 22 | 2 | 9 | 2 |
| Austin | Pride and Prejudice | 21 | | 14 | 1 |
| Howells | Rise of Silas Lapham | 19 | 6 | 3 | 1 |
| Churchill | Richard Carvel | 19 | 4 | 2 | 2 |
| Hawthorne | Scarlet Letter | 17 | 2 | 5 | 4 |
| Barrie | Little Minister | 16 | | | |
| Riis | Making of an American | 14 | 3 | | 3 |
| Dickens | Oliver Twist | 14 | 5 | | 4 |
| Lytton | Last Days of Pompeii | 13 | 3 | 2 | 2 |
| Dickens | Tale of Two Cities | 13 | 3 | 1 | 1 |
| Scott | Kenilworth | 13 | 4 | 1 | 2 |
| Stevenson | Dr. Jekyll and Mr. Hyde | 13 | 4 | 1 | 2 |
| Johnson | To Have and to Hold | 12 | 2 | 1 | |
| Dickens | David Copperfield | 12 | | 2 | 4 |
| Eliot | Adam Bede | 12 | 2 | 3 | |
| Thackeray | Vanity Fair | 12 | 1 | 9 | |
| Washington | Up From Slavery | 12 | 3 | | |
| Hawthorne | House of Seven Gables | 11 | 1 | 6 | |
| White | Blazed Trail | 10 | 5 | | |
| Page | Red Rock | 10 | | | 2 |
| Hugo | Les Miserables | 10 | 3 | 1 | |
| Dumas | Three Musketeers | 10 | 6 | | |
| White | A Certain Rich Man | 9 | | 1 | 3 |
| Van Dyke | Blue Flower | 9 | | 5 | |
| Kipling | Light That Failed | 9 | 1 | 2 | |
| Antin | Promised Land | 9 | 1 | 3 | |
| O. Henry | Four Million | 8 | 3 | | 1 |
| Palmer | Life of Alice Freeman Palmer | 8 | | 5 | |
| Goldsmith | Vicar of Wakefield | 7 | | | 2 |
| London | Call of the Wild | 7 | | | 2 |
| Poe | Best Tales | 7 | 1 | | 2 |
| Scott | Quentin Durward | 7 | 2 | | 1 |
| Scott | Talisman | 7 | 4 | | |
| Tarkington | Turmoil | 7 | 3 | 2 | |
| Ford | Honorable Peter Stirling | 6 | | 2 | 1 |
| Goldsmith | She Stoops to Conquer | 5 | 1 | 1 | |
| Burnett | T. Tembarom | 5 | | 1 | |
| Churchill | Crossing | 5 | | | 1 |
| Clemens | Connecticut Yankee | 5 | 2 | | 1 |
| Conrad | Typhoon | 5 | | | |
| Cooper | Spy | 5 | 4 | | |
| Dickens | Nicholas Nickleby | 5 | 1 | 1 | 1 |

| Author | Title | Total | Boys | Girls | Boys & Girls |
|---|---|---|---|---|---|
| Eggleston | Hoosier Schoolmaster | 5 | 2 | | 1 |
| Eliot | Silas Marner | 5 | | 1 | |
| Garland | Son of the Middle Border | 5 | 1 | 1 | |
| Hawthorne | Marble Faun | 5 | | 4 | 1 |
| Keller | Story of My Life | 5 | | 3 | |
| Reade | Cloister and the Hearth | 5 | 1 | 4 | |
| Tarkington | Gentleman from Indiana | 5 | | 1 | |
| Allen | Kentucky Cardinal | 4 | 1 | 1 | |
| Cervantes | Don Quixote | 4 | 2 | | |
| Cooper | Last of the Mohicans | 4 | 3 | | |
| Dumas | Count of Monte Cristo | 4 | 1 | | |
| Eliot | Romola | 4 | | 3 | 1 |
| Fisher | Bent Twig | 4 | | | |
| Grayson | Adventures in Contentment | 4 | 2 | | |
| Stowe | Uncle Tom's Cabin | 4 | 1 | 1 | |
| Tarkington | Monsieur Beaucaire | 4 | 1 | 1 | |
| Tarkington | Seventeen | 4 | | 2 | |
| Kingsley | Westward Ho! | 4 | 3 | | |
| Lamb | Essays of Elia | 4 | | | |
| Little | Lady of the Decoration | 4 | | 4 | |
| Maeterlinck | Blue Bird | 4 | | 2 | |
| Mitchell | Hugh Wynne | 4 | | | |
| Parker | Right of Way | 4 | 1 | 1 | |
| Shakespeare | King Lear | 4 | | | 1 |
| Zangwill | Melting Pot | 4 | | 1 | 1 |
| Clemens | Innocents Abroad | 3 | | | |
| Steiner | From Alien to Citizen | 3 | 1 | | |

TABLE D. ENGLISH IV

| | | | | | |
|---|---|---|---|---|---|
| Hugo | Les Miserables | 37 | 7 | 4 | 10 |
| Thackeray | Vanity Fair | 33 | 2 | 8 | 4 |
| Eliot | Adam Bede | 25 | 2 | 8 | 2 |
| Austin | Pride and Prejudice | 25 | | 12 | |
| Eliot | Mill on the Floss | 21 | | 10 | |
| Churchill | Crisis | 19 | 2 | 1 | 6 |
| Bronte | Jane Eyre | 19 | | 10 | |
| Zangwill | Melting Pot | 17 | | | 4 |
| Dickens | Tale of Two Cities | 16 | 1 | 1 | 1 |
| Blackmore | Lorna Doone | 14 | | 7 | 2 |
| Galsworthy | | 13 | | | |
| Hawthorne | Scarlet Letter | 13 | | 5 | 2 |
| Barrie | Little Minister | 13 | | 3 | 3 |
| Wallace | Ben Hur | 12 | 4 | 2 | |
| Kipling | Light That Failed | 12 | 1 | 3 | 1 |
| Bennett, A. | | 12 | | | |
| Dickens | David Copperfield | 11 | 2 | 1 | 1 |
| Howells | Rise of Silas Lapham | 11 | 2 | 1 | |
| Scott | Kenilworth | 11 | 1 | | 1 |
| Thackeray | Henry Esmond | 11 | 2 | | 1 |
| Wister | Virginian | 10 | 2 | | |
| Hardy | | 9 | | | |
| Grayson | | 9 | | | |
| Goldsmith | Vicar of Wakefield | 9 | 1 | 3 | |
| Kennedy | Servant in the House | 9 | | | 1 |
| Reade | Cloister and the Hearth | 9 | 3 | | 1 |
| Harrison | Queed | 8 | 2 | 1 | 2 |
| Dickens | Oliver Twist | 8 | 4 | 1 | 1 |

| Author | Title | Total | Boys | Girls | Boys & Girls |
|---|---|---|---|---|---|
| Goldsmith | She Stoops to Conquer | 8 | 2 | 1 | 1 |
| Palmer | Life of Alice Freeman Palmer | 8 | | 5 | |
| Poole | Harbor | 8 | 5 | 1 | |
| Deland | Iron Woman | 7 | | 3 | |
| Drinkwater | Abraham Lincoln | 7 | 1 | | 2 |
| Dumas | Count of Monte Cristo | 7 | 4 | | |
| Emerson | Essays and Addresses | 7 | 2 | 1 | |
| Fisher | Bent Twig | 7 | | 3 | |
| Lytton | Last Days of Pompeii | 7 | 1 | 1 | |
| Washington | Up From Slavery | 7 | 1 | | 1 |
| Barrie | Sentimental Tommy | 6 | | 3 | |
| Dickens | Nicholas Nickleby | 6 | 1 | | 1 |
| Kipling | Kim | 6 | 2 | | |
| Craik | John Halifax | 6 | 1 | 3 | |
| Shakespeare | King Lear | 6 | 1 | 1 | |
| Wells | Mr. Britling Sees it Through | 6 | 2 | 1 | |
| Antin | Promised Land | 5 | | 4 | |
| Bunyan | Pilgrim's Progress | 5 | | | 2 |
| Eliot | Romola | 5 | | 2 | 1 |
| Gregory, Lady | | 5 | | | |
| Hawthorne | House of The Seven Gables | 5 | | 4 | |
| Hawthorne | Marble Faun | 5 | | 1 | 1 |
| Ibsen | Doll's House | 5 | | 2 | |
| Jackson | Ramona | 5 | | 5 | |
| Maeterlinck | Blue Bird | 5 | | 5 | |
| Parkman | Oregon Trail | 5 | 3 | | |
| Riis | How the Other Half Lives | 5 | 1 | | 1 |
| Riis | Making of an American | 5 | 3 | | 1 |
| Shakespeare | Hamlet | 5 | 1 | | 1 |
| Shaw | Story of a Pioneer | 5 | | 2 | |
| Sheridan | Rivals | 5 | | | |
| Stevenson | Dr. Jekyll and Mr. Hyde | 5 | 3 | | |
| Conrad | Typhoon | 4 | 2 | | |
| Conrad | Youth | 4 | 2 | | |
| Cooper | Spy | 4 | 1 | | 1 |
| Ford | Janice Meredith | 4 | | 2 | |
| Ibanez | Four Horseman of the Apocalypse | 4 | | 1 | |
| Shakespeare | Much Ado About Nothing | 4 | | | |
| Shakespeare | Othello | 4 | | 2 | |
| Shakespeare | Taming of the Shrew | 4 | 1 | | |
| Sienkiewicz | Quo Vadis | 4 | 3 | | 1 |
| Service | Poems | 3 | | | |
| Tarkington | Seventeen | 3 | 1 | | 1 |
| Tarkington | Turmoil | 3 | | 1 | 1 |
| Thackeray | Pendennis | 3 | 2 | | |
| Van Dyke | Fisherman's Luck | 3 | | | 1 |

TABLE E

| Author | Title | Eng. I | Eng. II | Eng. III | Eng. IV | Total |
|---|---|---|---|---|---|---|
| Aldrich | Story of a Bad Boy | 14 | 5 | | | 18 |
| Antin | Promised Land | 6 | 15 | 9 | 5 | 35 |
| Austin | Pride and Prejudice | 2 | 6 | 21 | 25 | 54 |
| Barrie | Little Minister | 2 | 18 | 16 | 13 | 49 |
| Blackmore | Lorna Doone | 6 | 23 | 28 | 14 | 71 |
| Bronte | Jane Eyre | 1 | 10 | 24 | 19 | 54 |
| Churchill | Crisis | 2 | 41 | 33 | 19 | 95 |

| Author | Title | Eng. I | Eng. II | Eng. III | Eng. IV | Total |
|---|---|---|---|---|---|---|
| Churchill | Richard Carvel | | 13 | 19 | 3 | 36 |
| " | Crossing | 1 | 4 | 5 | 3 | 13 |
| Clemens | Tom Sawyer | 108 | 11 | 1 | 2 | 122 |
| " | Huckleberry Finn | 52 | 10 | 2 | 1 | 65 |
| " | Prince and the Pauper | 21 | 8 | 3 | | 32 |
| " | Connecticut Yankee | 1 | 4 | 5 | | 10 |
| Conrad | Typhoon | 1 | 1 | 4 | 5 | 11 |
| " | Youth | | | | 4 | 4 |
| Cooper | Last of the Mohicans | 35 | 20 | 4 | 1 | 60 |
| " | Deerslayer | 8 | 6 | 2 | 1 | 17 |
| " | Spy | 11 | 11 | 5 | 4 | 31 |
| Dickens | David Copperfield | 12 | 19 | 12 | 11 | 54 |
| " | Oliver Twist | 21 | 17 | 14 | 8 | 60 |
| " | Nicholas Nickleby | 2 | | 5 | 6 | 13 |
| " | Old Curiosity Shop | 4 | 4 | 1 | 2 | 11 |
| " | Tale of Two Cities | | 15 | 13 | 16 | 45 |
| Dumas | Count of Monte Cristo | 2 | 7 | 4 | 7 | 20 |
| " | Three Musketeers | 3 | 7 | 10 | 2 | 22 |
| Eggleston | Hoosier Schoolmaster | 19 | 10 | 5 | | 34 |
| Eliot | Mill on the Floss | 1 | 15 | 23 | 21 | 60 |
| " | Adam Bede | | | 12 | 25 | 37 |
| " | Silas Marner | 5 | 5 | 5 | 1 | 16 |
| " | Romola | | | | 5 | 5 |
| Fox | Trail of the Lonesome Pine | 2 | 5 | 2 | | 9 |
| " | Little Shepherd of Kingdom Come | 20 | 13 | 5 | 3 | 41 |
| Goldsmith | Vicar of Wakefield | 2 | 8 | 7 | 9 | 26 |
| Hawthorne | House of Seven Gables | 2 | 9 | 11 | 5 | 27 |
| " | Scarlet Letter | | 4 | 17 | 13 | 34 |
| " | Marble Faun | | 1 | 5 | 5 | 11 |
| O. Henry | Four Million | 1 | 8 | 8 | 3 | 20 |
| Howells | Rise of Silas Lapham | | 3 | 19 | 11 | 33 |
| Hugo | Les Miserables | | 3 | 10 | 37 | 50 |
| Jackson | Ramona | 14 | 37 | 22 | 5 | 78 |
| Keller | Story of My Life | 34 | 24 | 5 | 3 | 66 |
| Kipling | Captains Courageous | 28 | 5 | 3 | | 36 |
| " | Kim | | 5 | 3 | 6 | 14 |
| " | Light That Failed | | 6 | 9 | 12 | 27 |
| London | Call of the Wild | 74 | 16 | 7 | | 97 |
| Lytton | Last Days of Pompeii | 2 | 10 | 13 | 7 | 30 |
| Maeterlinck | Blue Bird | 4 | 3 | 4 | 5 | 16 |
| Mitchell | Hugh Wynne | 1 | 3 | 4 | 3 | 11 |
| Craik | John Halifax, Gentleman | 7 | 9 | 2 | 6 | 24 |
| Palmer | Life of Alice Freeman Palmer | | 2 | 8 | 8 | 18 |
| Riis | Making of an American | 1 | 11 | 14 | 5 | 31 |
| Scott | Ivanhoe | 8 | 16 | 2 | | 26 |
| " | Kenilworth | 2 | 8 | 13 | 11 | 34 |
| " | Talisman | 4 | 8 | 7 | 3 | 22 |
| " | Quentin Durward | 2 | 3 | 7 | 3 | 15 |
| Shakespeare | King Lear | | | 4 | 6 | 10 |
| Stevenson | Dr. Jekyll and Mr. Hyde | 1 | 18 | 13 | 5 | 37 |
| " | Kidnapped | 32 | 21 | 3 | | 56 |
| " | Black Arrow | 10 | 3 | 1 | | 14 |
| " | Treasure Island | 84 | 11 | | 1 | 96 |
| Stowe | Uncle Tom's Cabin | 7 | 10 | 4 | 1 | 22 |
| Tarkington | Penrod | 13 | 8 | | | 21 |
| " | Seventeen | 2 | 2 | 4 | 3 | 11 |
| " | Gentleman From Indiana | | 11 | 5 | 2 | 18 |
| " | Monsieur Beaucaire | | 2 | 4 | 2 | 8 |

| Author | Title | Eng. I | Eng. II | Eng. III | Eng. IV | Total |
|---|---|---|---|---|---|---|
| Tarkington | Turmoil | | 1 | 7 | 3 | 11 |
| Wallace | Ben Hur | 5 | 17 | 29 | 12 | 62 |
| Washington | Up From Slavery | 8 | 15 | 12 | 7 | 42 |
| White | Blazed Trail | 4 | 11 | 10 | 3 | 28 |
| Wister | Virginian | 7 | 33 | 22 | 10 | 72 |
| Zangwill | Melting Pot | | 2 | 4 | 17 | 23 |

TABLE I. BOOKS TO AROUSE INTEREST

| | Author | Title | Mentions |
|---|---|---|---|
| 1. | Clemens (136) | Tom Sawyer | 85 |
| 2. | London (80) | Call of the Wild | 61 |
| 3. | Stevenson (55) | Treasure Island | 44 |
| 4. | Clemens | Huckleberry Finn | 41 |
| 5. | Tarkington (29) | Penrod | 17 |
| 6. | Wiggin (23) | Rebecca of Sunnybrook Farm | 15 |
| 7. | O. Henry (15) | Stories | 15 |
| 8. | Fox (18) | Little Shepherd of Kingdom Come | 14 |
| 9. | Porter | Freckles | 14 |
| 10. | Alcott (33) | Little Women | 14 |
| 11. | Wister | Virginian | 13 |
| 12. | Doyle (19) | Sherlock Holmes | 12 |
| 13. | Jackson | Ramona | 12 |
| 14. | Kipling (26) | Jungle Book | 12 |
| 15. | " | Captains Courageous | 11 |
| 16. | London | White Flag | 11 |
| 17. | Burnett (16) | Secret Garden | 9 |
| 18. | Churchill (18) | The Crisis | 9 |
| 19. | Alcott | Eight Cousins | 8 |
| 20. | Cooper (31) | Spy | 8 |
| 21. | Eggleston | Hoosier Schoolmaster | 8 |
| 22. | Poe | Selected Tales | 8 |
| 23. | Stevenson | Kidnapped | 8 |
| 24. | Defoe | Robinson Crusoe | 7 |
| 25. | Porter | Pollyanna | 7 |
| 26. | Keller | Story of My Life | 7 |
| 27. | Grey, Zane | | 7 |
| 28. | Scott | Ivanhoe | 7 |
| 29. | White | Blazed Trail | 6 |
| 30. | Webster | Daddy Long Legs | 6 |
| 31. | Aldrich | Story of a Bad Boy | 6 |
| 32. | Dickens (14) | Tale of Two Cities | 6 |
| 33. | Hale | Man Without a Country | 6 |
| 34. | Montgomery | Anne of Green Gables | 6 |
| 35. | Ollivant | Bob, Son of Battle | 6 |
| 36. | Churchill | Richard Carvel | 6 |
| 37. | Cooper | Last of the Mohicans | 5 |
| 38. | Grenfell | Adrift on an Ice Pan | 5 |
| 39. | Rice | Mrs. Wiggs of the Cabbage Patch | 5 |
| 40. | Tarkington | Seventeen | 5 |
| 41. | Verne | Twenty Thousand Leagues Under the Sea | 5 |

TABLE J. "STEPPING STONES" BETWEEN BAD AND GOOD BOOKS

| | | | |
|---|---|---|---|
| 1. | London | Call of the Wild | 35 |
| 2. | Stevenson | Treasure Island | 26 |
| 3. | Clemens | Tom Sawyer | 24 |

| | Author | Title | Mentions |
|---|---|---|---|
| 4. | Wister | Virginian | 19 |
| 5. | Clemens | Huckleberry Finn | 18 |
| 6. | Grey, Zane | Novels | 17 |
| 7. | O. Henry | Stories | 14 |
| 8. | Doyle | Sherlock Holmes | 14 |
| 9. | Montgomery | Anne of Green Gables | 14 |
| 10. | Porter | Girl of the Limberlost | 13 |
| 11. | Fox | Little Shepherd of Kingdom Come | 12 |
| 12. | Wiggin | Rebecca of Sunnybrook Farm | 12 |
| 13. | Seton | Animal Stories | 11 |
| 14. | Tarkington | Gentleman from Indiana | 11 |
| 15. | Kipling | Captains Courageous | 10 |
| 16. | Service | Poems | 10 |
| 17. | Webster | When Patty Went to College | 10 |
| 18. | Burnett | Secret Garden | 8 |
| 19. | Porter | Freckles | 8 |
| 20. | Alcott | Little Women | 7 |
| 21. | Eggleston | Hoosier Schoolmaster | 7 |
| 22. | Hope | Prisoner of Zenda | 7 |
| 23. | Jackson | Ramona | 7 |
| 24. | London | White Fang | 7 |
| 25. | Churchill | Crisis | 6 |
| 26. | Johnson | To Have and to Hold | 6 |
| 27. | Piers | School Stories | 6 |
| 28. | Porter | Pollyanna | 6 |
| 29. | Rinehart, Mary Roberts | | 6 |
| 30. | Stevenson | Kidnapped | 6 |
| 31. | White | Blazed Trail | 6 |
| 32. | Wright | When a Man's a Man | 6 |
| 33. | Wright | Winning of Barbara Worth | 6 |
| 34. | Aldrich | Marjorie Daw | 5 |
| 35. | Barbour | Crimson Sweater | 5 |
| 36. | Bronte | Jane Eyre | 5 |
| 37. | Connor | Glengarry School Days | 5 |
| 38. | Dodge | Hans Brinker | 5 |
| 39. | Dumas | Count of Monte Cristo | 5 |
| 40. | Duncan | Dr. Luke of the Labrador | 5 |
| 41. | Fox | Trail of the Lonesome Pine | 5 |
| 42. | Rice | Mrs. Wiggs of the Cabbage Patch | 5 |
| 43. | Tarkington | Seventeen | 5 |
| 44. | Clemens | Prince and the Pauper | 5 |

## Table M. Voluntary Reading

### Senior Girls

| Author | Title | Men. |
|---|---|---|
| Tarkington | Seventeen | 4 |
| Lewis | Main Street | 3 |
| Churchill | Crisis | 3 |
| Blackmore | Lorna Doone | 2 |
| Bronte | Jane Eyre | 2 |
| Fitzgerald | This Side of Paradise | 2 |
| Orczy | Scarlet Pimpernel | 2 |
| Rinehart | Circular Staircase | 2 |
| Wilsie | Enchanted Canyon | |

### Senior Boys

| Author | Title | Men. |
|---|---|---|
| Lewis | Main Street | 7 |
| Tarkington | Seventeen | 2 |
| Wallace | Ben Hur | 2 |
| Bok | Americanization of | 2 |
| Grey | Mysterious Rider | 2 |

### Junior Girls 100

| Author | Title | Men. |
|---|---|---|
| Lewis | Main Street | 11 |
| Churchill | Crisis | 4 |
| Bacheller | Man for the Ages | 2 |
| Bok | Americanization of | 2 |
| Curwood | Flaming Forest | 2 |
| Chipperfield | Unseen Hands | 2 |
| Grey | Man of the Forest | 2 |
| Hugo | Les Miserables | 2 |
| Jackson | Ramona | 2 |
| Johnson | To Have and to Hold | 2 |
| Lincoln | Mary Gusta | 2 |
| Lytton | Last Days of Pompeii | 2 |
| Porter | Harvester | 2 |
| Tarkington | Magnificent Ambersons | 2 |
| " | Seventeen | 2 |
| Hull | The Sheik | 2 |
| " | Ishmael | 2 |

### Junior Boys 100

| Author | Title | Men. |
|---|---|---|
| Bok | Americanization of | 5 |
| Lewis | Main Street | 4 |
| Tarkington | Seventeen | 3 |
| Curwood | Valley of Silent Men | 3 |
| Grey | Man of the Forest | 3 |
| " | Desert Gold | 3 |
| London | Call of the Wild | 2 |
| " | Sea Wolf | 2 |
| Lincoln | Shavings | 2 |
| Fox | Trail of the Lonesome Pine | 2 |
| Grey | Mysterious Rider | 2 |
| Oppenheim | Great Impersonation | 2 |

### Sophomore Girls 100

| | | |
|---|---|---|
| Bok | Americanization of | 4 |
| Churchill | Crisis | 3 |
| Wister | Virginian | 3 |
| Cooper | Spy | 2 |
| Fisher | Bent Twig | 2 |
| Fitzgerald | This Side of Paradise | 2 |
| Ford | Janice Meredith | 2 |
| Ibanez | Four Horsemen of the Apocalypse | 2 |
| Lytton | Last Days of Pompeii | 2 |
| Tarkington | Seventeen | 2 |
| Terhune | Lad, a Dog | 2 |
| | Lydia at the Pines | 2 |

### Sophomore Boys 125

| | | |
|---|---|---|
| Grey | Wildfire | 6 |
| " | Riders of the Purple Sage | 5 |
| Bok | Americanization of | 4 |
| Clemens | Connecticut Yankee | 4 |
| Churchill | Crisis | 3 |
| Kyne | Kindred of the Dust | 3 |
| Curwood | River's End | 2 |
| Dumas | Three Musketeers | 2 |
| Franck | Vagabond Journey Around the World | 2 |
| London | Sea Wolf | 2 |
| Tarkington | Seventeen | 2 |
| London | Call of the Wild | 2 |

### Freshmen Girls 225

| | | |
|---|---|---|
| Alcott | Little Women | 10 |
| Clemens | Tom Sawyer | 8 |
| Porter | Girl of the Limberlost | 7 |
| Wiggin | Rebecca of Sunnybrook Farm | 6 |
| Montgomery | Anne of Green Gables | 6 |
| Ashmun | Isabel Carleton | 5 |
| Dickens | Oliver Twist | 5 |
| ..... | Elsie Dinsmore | 4 |
| Tarkington | Seventeen | 4 |
| " | Penrod | 4 |
| Burroughs | Tarzan series | 3 |
| Webster | Just Patty | 3 |
| Montgomery | Anne of Avonlea | 3 |
| Porter | Pollyanna | 3 |
| Barrie | Sentimental Tommy | 2 |
| Connor | Sky Pilot of No Man's Land | 2 |
| Churchill | Richard Carvel | 2 |
| " | Crossing | 2 |
| Curwood | River's End | 2 |
| Dickens | David Copperfield | 2 |
| Grey | Riders of the Purple Sage | 2 |
| " | Man of the Forest | 2 |
| Irwin | Six Girls | 2 |
| Montgomery | House of Dreams | 2 |
| Martin | Emmy Lou | 2 |
| Porter | Oh! Money, Money | 2 |
| Rinehart | Amazing Interlude | 2 |
| " | K | 2 |
| Roosevelt | Letters to His Children | 2 |
| Stowe | Uncle Tom's Cabin | 2 |
| Washington | Up From Slavery | 2 |
| Wright | Shepherd of the Hills | 2 |
| Webster | Daddy Long Legs | 2 |

### Freshmen Boys 200

| | | |
|---|---|---|
| Clemens | Tom Sawyer | 7 |
| London | White Fang | |
| Burroughs | Tarzan books | 4 |
| Doyle | Sherlock Holmes | 4 |
| Nicolay | Life of Lincoln | 4 |
| Curwood | Kazan | 3 |
| Grey | Wildfire | 3 |
| London | Call of the Wild | 3 |
| Stevenson | Treasure Island | 3 |
| Tarkington | Penrod and Sam | 3 |
| Empey | Over the Top | 2 |
| Grey | Riders of the Purple Sage | 2 |
| " | Desert Gold | 2 |
| London | On the Road | 2 |
| " | Sea Wolf | 2 |
| " | Hunters of the Hills | 2 |
| Lewis | Main Street | 2 |
| Mulford | Bar 23 | 2 |
| Paine | Life of Mark Twain | 2 |
| Rinehart | Circular Staircase | 2 |
| Scott | Ivanhoe | 2 |
| Tarkington | Penrod | 2 |
| " | Seventeen | 2 |
| Clemens | Huckleberry Finn | 2 |
| ..... | Dr. Fu Man Chu | 2 |
| ..... | Black Bartelmys Treasure | 2 |
| Parrish | When Wilderness was King | 2 |
| ..... | Dragon Flies | 2 |

## Table N. Book Reports

### 89 Senior Girls

| Author | Title | Men. |
|---|---|---|
| Reade | Cloister and the Hearth | 16 |
| Dickens | Tale of Two Cities | 12 |
| Kipling | Light That Failed | 6 |
| Dickens | Nicholas Nickleby | 5 |
| Churchill | Crisis | 4 |
| Scott | Kenilworth | 4 |
| Tarkington | Seventeen | 3 |
| Poole | Harbor | 2 |
| Thackeray | Vanity Fair | 2 |
| Blackmore | Lorna Doone | 2 |
| Bronte | Jane Eyre | 2 |
| Fitzgerald | This Side of Paradise | 2 |

### 95 Senior Boys

| Author | Title | Men. |
|---|---|---|
| Reade | Cloister and the Hearth | 17 |
| Dickens | Tale of Two Cities | 16 |
| Scott | Kenilworth | 11 |
| Dickens | Nicholas Nickleby | 7 |
| Kipling | Light That Failed | 5 |
| Wister | Virginian | 2 |
| Dickens | Oliver Twist | 2 |

### Junior Girls

| | | |
|---|---|---|
| Cooper | Last of the Mohicans | 17 |
| Stowe | Uncle Tom's Cabin | 10 |
| Dickens | Tale of Two Cities | 8 |
| Howells | Rise of Silas Lapham | 6 |
| Reade | Cloister and the Hearth | 5 |
| Cooper | Pioneers | 4 |
| Churchill | Crisis | 4 |
| " | Richard Carvel | 3 |
| Dumas | Count of Monte Cristo | 3 |
| Hugo | Les Miserables | 3 |
| Clemens | A Connecticut Yankee | 3 |
| London | Call of the Wild | 2 |
| Dickens | Oliver Twist | 2 |
| Huard | My Home in the Field of Honor | 2 |
| Hawthorne | House of Seven Gables | 2 |
| Jackson | Ramona | 2 |
| Keller | Story of my Life | 2 |
| Scott | Kenilworth | 2 |
| Sheridan | The Rivals | 2 |

### Junior Boys

| | | |
|---|---|---|
| Cooper | Last of the Mohicans | 12 |
| Stowe | Uncle Tom's Cabin | 6 |
| Poe | Best Tales | 6 |
| Kipling | Light That Failed | 3 |
| Tarkington | Seventeen | 3 |
| Howells | Rise of Silas Lapham | 3 |
| Dickens | David Copperfield | 3 |
| " | Tale of Two Cities | 3 |
| London | Call of the Wild | 2 |
| Reade | Cloister and the Hearth | 2 |
| Scott | Kenilworth | 2 |
| Clemens | Huckleberry Finn | 2 |
| Wister | Virginian | 2 |
| Cooper | Spy | 2 |
| " | Pathfinder | 2 |
| Churchill | Crossing | 2 |
| Connor | Corporal Cameron | 2 |
| Dana | Two Years Before the Mast | 2 |
| Eliot | Silas Marner | 2 |
| Grenfel | Adrift on an Ice Pan | 2 |

### Sophomore Girls

| | | |
|---|---|---|
| Stowe | Uncle Tom's Cabin | 4 |
| Wister | Virginian | 4 |
| Cooper | Spy | 4 |
| Dickens | Oliver Twist | 4 |
| " | David Copperfield | 3 |
| Churchill | Richard Carvel | 3 |
| Blackmore | Lorna Doone | 3 |
| Bok | Americanization of | 3 |
| Fox | Little Shepherd of Kingdom Come | 3 |
| Addams | Twenty Years at Hull House | 3 |
| Tarkington | Seventeen | 3 |
| Kipling | Light That Failed | 2 |
| Keller | Story of My Life | 2 |
| London | Call of the Wild | 2 |
| Stevenson | Black Arrow | 2 |
| Seton | Animal Stories | 2 |
| Tarkington | Penrod | 2 |
| Wallace | Ben Hur | 2 |
| Wiggin | Rebecca of Sunnybrook Farm | 2 |
| Cooper | Last of the Mohicans | 2 |
| Fisher | Bent Twig | 2 |
| Hawthorne | House of Seven Gables | 2 |

### Sophomore Boys

| | | |
|---|---|---|
| London | White Fang | 12 |
| " | Call of the Wild | 6 |
| Clemens | Connecticut Yankee | 6 |
| Cooper | Last of the Mohicans | 5 |
| " | Deerslayer | 4 |
| " | Spy | 4 |
| Dickens | David Copperfield | 4 |
| Churchill | Crisis | 3 |
| Bok | Americanization of | 3 |
| Fox | Little Shepherd of Kingdom Come | 3 |
| Johnson | Stover at Yale | 3 |
| Stowe | Uncle Tom's Cabin | 3 |
| Clemens | Tom Sawyer | 3 |
| Poe | Best Tales | 2 |
| Roosevelt | African Game Trails | 2 |
| Stevenson | Kidnapped | 2 |
| White | Blazed Trail | 2 |
| Churchill | Richard Carvel | 2 |
| Dickens | Oliver Twist | 2 |
| Fox | Trail of the Lonesome Pine | 2 |
| Grenfel | Adrift on an Ice Pan | 2 |
| Howells | Rise of Silas Lapham | 2 |
| Franck | Vagabond Journey Around the World | 2 |

### Freshmen Girls

| | | |
|---|---|---|
| Dickens | Oliver Twist | 16 |
| Keller | Story of My Life | 14 |
| Montgomery | Anne of Green Gables | 11 |
| Tarkington | Penrod | 11 |

### Freshmen Boys

| | | |
|---|---|---|
| London | Call of the Wild | 15 |
| " | White Fang | 13 |
| Clemens | Huckleberry Finn | 11 |
| " | Tom Sawyer | 10 |

| Author | Title | Men. |
|---|---|---|
| Tarkington | Seventeen | 11 |
| Clemens | Tom Sawyer | 10 |
| Alcott | Little Women | 9 |
| Fox | Little Shepherd of Kingdom Come | 9 |
| Wiggin | Rebecca of Sunnybrook Farm | 9 |
| Fox | Trail of the Lonesome Pine | 7 |
| Jackson | Ramona | 7 |
| London | White Fang | 7 |
| Clemens | Prince and the Pauper | 7 |
| " | Huckleberry Finn | 6 |
| Burnett | Secret Garden | 5 |
| London | Call of the Wild | 5 |
| Nicholay | Boys' Life of Abraham Lincoln | 5 |
| Richards | Florence Nightingale | 5 |
| Addams | Twenty Years at Hull House | 4 |
| Hale | A Man Without a Country | 4 |
| Stevenson | Kidnapped | 4 |
| Dickens | Nicholas Nickleby | 3 |
| Stowe | Uncle Tom's Cabin | 3 |
| Clemens | Joan of Arc | 3 |
| Antin | Promised Land | 2 |
| Blackmore | Lorna Doone | 2 |
| Dickens | Old Curiosity Shop | 2 |
| " | Great Expectations | 2 |
| Doyle | Sherlock Holmes | 2 |
| Hawthorne | House of Seven Gables | 2 |
| Muir | Stickeen | 2 |
| Major | When Knighthood was in Flower | 2 |
| Ollivant | Bob, Son of Battle | 2 |
| Porter | Girl of the Limberlost | 2 |
| Roosevelt | Letters to his Children | 2 |
| Stevenson | Treasure Island | 2 |
| Clemens | Innocents Abroad | 2 |
| Verne | Twenty Thousand Leagues Under the Sea | 2 |
| Wister | Virginian | 2 |
| Grenfel | Adrift on an Ice Pan | 8 |
| Tarkington | Penrod | 8 |
| " | Seventeen | 6 |
| Jones | Life of Edison | 6 |
| Doyle | Sherlock Holmes | 5 |
| Dickens | Oliver Twist | 5 |
| Cooper | Last of the Mohicans | 4 |
| Fox | Little Shepherd of Kingdom Come | 4 |
| Nicholay | Boys' Life of Abraham Lincoln | 4 |
| Stevenson | Treasure Island | 4 |
| Dickens | David Copperfield | 3 |
| Paine | Boys' Life of Mark Twain | 3 |
| Washington | Up From Slavery | 3 |
| Wister | Virginian | 3 |
| Aldrich | Story of a Bad Boy | 2 |
| Heyliger | High Benton | 2 |
| Hale | A Man Without a Country | 2 |
| Hagedorn | Life of Roosevelt | 2 |
| Johnson | Stover at Yale | 2 |
| Seton | Animal Stories | 2 |
| Stowe | Uncle Tom's Cabin | 2 |
| Roosevelt | African Game Trails | 2 |

## Table P

Totals For Non-Fiction, Voluntary and Required

| | English I | | | English II | | | English III | | | English IV | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Boy | Girl | Total | Boy | Girl | Total | Boy | Girl | Total | Boy | Girl | Total |
| Biography | 48 | 49 | 97 | 14 | 19 | 33 | 8 | 13 | 21 | 5 | 5 | 10 |
| Travel | 8 | 2 | 10 | 17 | | 17 | 5 | 2 | 7 | 2 | 2 | 4 |
| Essay | 2 | 2 | 4 | 5 | 1 | 6 | 7 | 6 | 13 | 1 | 1 | 2 |
| European War | 4 | 2 | 6 | 2 | 2 | 4 | 2 | 1 | 3 | | 1 | 1 |
| Drama | | | | | | | 1 | 3 | 4 | 2 | 4 | 6 |
| Science | | | | 2 | 0 | 2 | | | | 5 | 0 | 5 |
| Poetry | 1 | 0 | 1 | | | | 1 | 2 | 3 | | 1 | 1 |
| Bible | | | | | | | 1 | | 1 | | | |

Total

| | Boy | Girl | Total |
|---|---|---|---|
| Biography | 75 | 86 | 161 |
| Travel | 32 | 6 | 38 |
| Essay | 15 | 10 | 25 |
| European War | 8 | 6 | 14 |
| Drama | 3 | 7 | 10 |
| Science | | 7 | 7 |
| Poetry | 2 | 3 | 5 |
| Bible | | 1 | 1 |
| | | | 262 |

Four written discussions of the report followed. These were really in the nature of supplemental reports dealing with the results of the committee's findings. Miss Dexheimer emphasized the need of the teacher's knowing three things—the book to be taught, the child's tastes and predilections, and the home from which the child comes. She mentioned a number of devices by which the pupil's desire to read might be stimulated, such as dramatizing portions of the book, using five minutes at the end of a study period for reading aloud by the teacher, etc. These suggested methods of stimulating interest were further supplemented by Miss Hamilton who advocated the teacher's giving an account of the historical and social background of such books as *Ivanhoe* and *The House of Seven Gables,* because the setting of these books is unfamiliar to the pupils. She suggested that the boys could often be interested by being encouraged to draw a map of Treasure Island. She advocated also the reading aloud by the teacher of current poetry at odd moments. The keynote of Miss Smith's discussion was, Be sincere with boys and girls, and above all give them credit for the ability to do original thinking.

Miss Dexheimer's discussion follows:

## Stimulating an Interest in Outside Reading for the Grades

**Lora M. Dexheimer, Illinois State Normal University**

Every young child who is normal likes to hear stories, and wants to learn to read. This is because he has a desire to know, which is based on the instinct of curiosity, and because he has the instinct of imitation which causes him to wish to do what he sees others doing. Ask any proud six-year old why he goes to school: "To learn to read" is the almost invariable reply. His most cherished possession is his new first reader—and the small boy I know who was propped up in bed with this book and a light the night of his first day at school is a proof of this statement even though he was sound asleep five minutes after his mother left the room.

The reading of the beginning four years of the elementary school has two phases: first—the reading of stories to the children for the purpose of arousing interest in books and of cultivating an appreciation for the best sorts of literature; and second—the mechanics of reading, which consist of the phonic elements, of drills for recognition and meaning of words of practice in phrasing and in oral expression, and the formation of similar habits which should be acquired while plasticity of mind makes such acquisition easy. The satisfactions of literature, either informational or cultural, the tastes formed, and the power acquired over the printed page are the gains of this period; the ever-present dangers are the loss of interest and desire which result when the mechanics of reading have been neglected or made so irksome thru poor teaching, that they seem to the child an obstacle instead of an aid along the path to power in reading. Much easy reading and spirited drills are the necessary first aids the school must provide, especially for the many whose opportunities with books are limited to those which the school furnishes.

With the mechanics of reading fairly in hand and right attitudes somewhat established in the lower half of the elementary school, we come to the upper half where the formation of good habits and tastes and appreciations must occur, if these are to function in any degree in the later lives of many children. I shall

begin at what may seem the wrong end of the matter, and state briefly two chief obstacles to success here:

One is an unpropitious environment—the absence of poise in the home; the lack of opportunity for repose, for "inviting one's soul" which even a child has a right to have. The kaleidoscope of movies, and automobiles and Sunday supplements and parties, and campings, and clubs, and week-ends, whirls altogether too swiftly to allow the growing child a fair chance at a book unless some outside influence can help many homes to acquire a keener sense of values.

The other difficulty lies at school: There is one class in every school that from its very nature should always be a joy to its members—the reading class. Why isn't it? Are these not the chief reasons?

1. The mechanics of reading are not mastered, so the pupil must flounder among words which hide rather than reveal thought.

2. The lock-step and other poor methods which take no cognizance of individual needs.

3. The fetish of oral reading.

4. The teacher's lack of knowledge, training, taste, and sense of children's needs.

These conditions cannot easily be prescribed for—much less easily can they be cured—but they must be considered when we are diagnosing the cases of children who "do not like to read" and perhaps they need not be continued in the classes of the High Schools.

With this scant outline of the problem and its limitations I may suggest some of the ways by which we try in the elementary school to "stimulate an interest in outside reading."

One of the most important foundations of a desire to read is a broad fund of experience. The school should increasingly contribute to this through its regular activities by means of trips, excursions, investigations, interviews and the like. Experiences like these in the lives of individuals in the class may also be made to contribute to the general interest, by judicious use of them in class exercises. By such means pupils gain a fund of interpretative ideas which provides a motive for reading, and a vocabulary which tends to make reading easy.

The emphasis which the school is beginning to place upon "silent" reading must prove a strong incentive in the direction of interest in general reading. In such an exercise the pupil's whole effort is bent upon reading for the content or thought. Further, his effort is untrammeled by any attention to the efforts of his fellow-pupils,—hence he reads for individual satisfaction and appreciation. His interest in the story increases his power of concentration, and enables him to read in greater quantity than he could otherwise do. A good assignment cultivates in him a sense of discrimination—a sense of the relative value of ideas—which is the beginning of that ability in organization without which wide reading loses some of its value.

Making the reading lesson an independent exercise for each pupil is a device of much power in broadening children's interests in books. From reading what they like they may easily be guided by wise suggestions into liking the sort of thing that is helpful and that will prove an impetus to further reading. This device too, will bring into the class room different sorts of books from various sources, whose merits the small readers will learn to judge, if placed in comparison with those whose values are unquestioned.

Reference reading in connection with other school subjects is a natural means of securing reading that even in these days of many "supplementary" readers the crowded school curriculum is prone to neglect. If the teacher assigns these readings with an eye to satisfying children's curiosities, assures them of an opportunity to do the work, and provides time for reports, they are bound to prove most

stimulating to young seekers after knowledge. This type of reading being chiefly informational has a high value with pre-adolescent children because it satisfies their instinctive curiosity about things and people, while giving the practice they need to secure skill in reading.

The prevalent interest in oral English may be used to contribute to outside reading. "Children's book week" has been the occasion of many reports of book reviews, of books liked and not liked with reasons for such opinions. Thrift, Public Safety, Health, and other subjects which the school is called upon to promote all furnish reading material which the eager interest of children will seize upon if even small incentive be furnished by the school. Current events fall in this category, and though discussions here need careful and unprejudiced guidance, the recent increase of interest in public matters makes this a fruitful source of effort in outside reading.

That greatest of all helps to outside reading—the school library— is fortunately becoming accessible to more and more children. Like all other aids, however, its usefulness is measured to those whose need is greatest by the tact and skill of the teacher to whom falls the privilege of ministering to this need. The teacher must know children—their likes and dislikes, their varying capacities, the influences working in their homes, and the means of satisfying or combating all these, as the case may be. Teachers must know books, as well as boys and girls, and through a sincere enthusiasm work with patience, persistence, and sympathy to bring them together. The beginners in this pleasant field are always much encouraged if they may report the results of their reading to a like-minded audience at school.

Reading aloud to children is a device as old and as attractive as are books themselves. The teacher who fails to suggest the thrill of adventure, the flight of fancy, the bubbling humor, the weight of grief, through a bit of oral reading of story or poem each day is losing a real joy, as well as the finest of all chances to direct the listeners to glean in these fields for themselves.

A never-failing source of pleasure in school is the reading shelf to which pupils have access at any free time, with the privilege of reading anything which rouses their interest. This reading is no less valuable in that it frequently adds to the value of some phase of school work.

Preparing a play is a stimulus to reading to gain accuracy in spirit, in setting, in dress, and in other details if the play is really worked out by the pupils who give it. A fine motive appears in work of this sort, which is not always attainable even in "outside" reading.

Pupils from the same class may be interested in reading by assigning various phases of a general topic to different groups. For example a history class has just been busily engaged in the study of inventions—part of the class reporting upon those made before the time of Columbus, and the others considering those made since. This device is capable of many variations.

Lists of books posted early in the year, to be reported upon by a given grade during the year urges many a child to read through a wholesome spirit of rivalry, who might otherwise remain untouched except for the public sentiment thus aroused.

These are some of the devices by which we try to stimulate children in the grades to do "outside" reading. Perhaps you will agree with me that most of it is "inside" reading, in the sense that it receives its inspiration and guidance largely through the immediate control of the school. Your chairman asked me to designate some ways by which this effort in the elementary school might "tie up" with similar efforts in the high school. This is not an easy problem to approach from the lower side. I may cite a few instances of elementary school beginnings which we hope as we teach them will grow to finer fruition as the children acquire wider experiences in later school years. Robert Louis Stevenson,

for example, is a favorite from the first grade where "I Have a Little Shadow" gives such perfect joy, to the sixth or seventh grade where a selection from Treasure Island is such good "adventure" that it whets the appetite for more.

"The Cratchit's Christmas Dinner," and "Mr. Winkle on Skates," and "The Battle of Hastings," are but an enjoyable foretaste of the pleasant variety that Dickens has in store for us. "Moses at the Fair" arouses our curiosity as to other bargains he may have made. Rip Van Winkle and Peter Stuyvesant not only stimulate our imaginations and our thirst for more, but they prod us on to verify our historical impressions by further investigations. A bit of "Julius Caesar" played with scant stage properties but much enthusiasm and imagination certainly sharpens our sensibilities when we begin the study of Shakespeare much later. And surely Tennyson's poems and the Latin translations do not suffer in High School because we have trod the paths of high adventure with King Arthur and the Greek Heroes long before. If these are not helpful, at least in a general way, then much joyful activity is being wasted in elementary school classes today.

The subject was further discussed by Miss Hazel E. Koch of Rockford, as follows:

## Books Recommended to High School Students and Their Value for Widening the Geographical Horizon

### By Hazel E. Koch

In discussing the purposes of literature teaching, the Committee on the Reorganization of English in Secondary Schools mentions the value of taking the pupil out of his own local group, out of his small environment limited as to time and place, and showing to him the world with its actors both past and present. In short, one purpose as discussed there, is to widen the geographical and historical horizon. To quote from the report of this committee, one of the special purposes of literature is

"To broaden the mental experience by supplying a sympathetic acquaintance with scenes in various geographical sections, and with historical periods of the world. This has two distinct values: (1) Psychologically it forms centers of apperception about which fresh facts will tend to gather in the future, the process being vitalized by the human interest attaching to the central historical or fictional figures; and (2) by the presentation of persons acting in accordance with the demands of conditions new to the pupil, an attack is made early in the educative process upon the tendency toward a merely local or provincial outlook upon life."

The purpose of my investigation was to find out to just what extent the books recommended by English departments in high schools are satisfactory tools for the realization of the aim as just stated. This paper concerns itself only with the first part of the aim; that is, the broadening of "—the mental experiences by supplying a sympathetic acquaintance with scenes in various geographical sections—."

Broadening the geographical horizon, is in the light of modern interpretation of the objectives of education, surely a sound and necessary aim for the reading work. We have reached a period in the development of civilization where, through the perfection of mechanical devices, distance on the globe has become a negligible quantity. We know to-night what happened anywhere in the world this morning. We can get to that point in a comparatively short time. We are no longer a provincial group cut off from communication with our fellow beings in other parts of the world. We are talking about national brotherhood and world peace, but world brotherhood, peace, and friendship are impossible without under-

standing and complete knowledge. If we had unlimited time and means at our disposal, if we had many lives to live, we could live for a time with all the different groups of the world. Then we might be said to know them, and then we could feel the real tie of brotherhood.

However, actual participation in the lives of various people of the earth is impossible, but vicarious participation is certainly within our reach. Through books and reading we may live where and among what people we please. It is the best means we have of going beyond our home environment. Mrs. Stowe thought it might be interesting and instructive for people to live the life of the southern slave, so she wrote "Uncle Tom's Cabin." For the few hours it takes to read it and ever afterward at will, one can live the life of Uncle Tom and his slave brothers. As we read or think of the "Call of the Wild" or "Captains Courageous" or "Kim" we find our understanding and sympathy extended to include their environment.

Since this is true, the kind of books recommended for reading in high schools is tremendously important. High school students should develop a feeling of large group consciousness, of social oneness, of international brotherhood, and the best means of doing this is to broaden the geographical horizon through the reading of books portraying all different parts of the globe.

In order that I might find out just what the high schools of the country were reading, and to what extent the reading matter actually broadened the horizon, I collected 35 reading lists and courses of study from prominent and representative high schools in all sections of the United States. I listed in one composite list every book mentioned on the 35 lists, with its frequency of occurrence. This list had a total of 4025 different books.

In order that I might find out what books were most commonly read, I listed separately all those having a frequency of 15 or more. As a result of this I had a list of 97 books very generally read in the high schools of the United States. These I studied carefully for geographical material.

I found that 9 of the 97 books had no geographical significance at all. Forty of them pictured the United States, 26 England, 5 France, 4 Canada, 3 Scotland, 2 Italy, and 2 Palestine. Alaska, Germany, India, Persia, and Spain each had one book respectively, while Ireland, Sweden, Russia, Japan, and China, to mention only a few of the omissions, were not revealed at all.

A summary glance at the places revealed in the ninety-seven most frequently mentioned books leads to the conclusion that they picture the United States adequately, England rather completely, Scotland fairly well, France fairly well, and Palestine reasonably well. India is revealed very well in the one book that pictures it, but the proportion given to it is not so good. There is too great a chance with only one book concerning the country, that that one book will not be chosen, and hence the pupil will remain unacquainted with the region revealed by it. Therefore frequency is a device which will help to insure the reading of books on various portions of the globe. The frequency, other things being equal, should probably be in proportion to the geographical importance of the country.

Other countries are not pictured at all, or they are very inadequately pictured.

Nearly half of the books are books with an American background and nearly one third picture England. Other countries receive a very meager treatment or are omitted altogether. This indicates the fostering of a provincial, small-group attitude. It suggests that while we talk of the development of cosmopolitanism, of world group consciousness, we are really cheating ourselves. We like to think we are doing it, and the statement of one aim is devoted to it in the course of study for English, but the books which are commonly recommended are not chosen with the accomplishment of that end in view.

After the study of the first 97 books I went on with the study of the entire composite list. I will summarize only the results for you as there is not time for any detailed comment on the particular books.

It is found that there are 198 books laid in the United States, 33 of them based on the East, 24 on the Middle West, 42 on New England, 41 on the South, and 53 on the West. These are distributed with sufficient evenness so that all sections of the country seem to be fairly well revealed.

The Far North, in most cases this means Alaska, is represented by 25 books. Since London and Service are prominent in this list, the delineation of that region may be said to be accurate and adequate.

Canada apparently has only eight books to her credit, a very inadequate number considering the size of the country and its wealth of interesting material. The majority of these eight books too, are concerned with only one section of the country, Labrador, and are usually connected in some way with the work of Dr. Grenfell.

Mexico had only seven books, and these seven are each mentioned less than six times, indicating that there is no widespread interest in that near neighbor. How far these books give an adequate revelation of the country it is impossible to say. Certainly for reasons of international and sociological import it is most important that America become better acquainted with Mexico. Seven books, infrequently mentioned, certainly furnish an inadequate basis for such an acquaintance.

England, as was discovered by an analysis of only the books most frequently mentioned, is adequately taken care of.

France, Belgium, and Holland together have a representation of 90 books, a large number of them being war books. These latter are not very satisfactory or valuable as geographical revelations, as in most cases they merely picture the trenches, the men holding them, and their life and death. The countries themselves, are revealed with only fair accuracy.

Italy has 37 books which are mentioned less than six times. This indicates an inadequate treatment of that country; if these 37 books truly reveal Italy, they should be more generally recommended.

Ireland seems to have only 6 books interested in her. Moreover, some of these do not in any way reveal the country even though they are technically speaking, laid there which makes the situation still more serious. Poor Ireland! Perhaps if it were more thoroughly understood, some of the difficulties connected with it would disappear.

Germany has only three books, and one of them is useless geographically. That is of course, a deplorable situation. No doubt war prejudice had something to do with it, but the situation needs remedying at once.

Poland has two books and Switzerland one, a condition obviously unsatisfactory.

Russia seems to have only 14 books to her credit, thirteen of them being mentioned less than six times. These books may be adequate as far as they go, but they are not mentioned with sufficient frequency to catch many of the students.

South America has only seven books, a meager and unsatisfactory showing when we consider our aspirations to trade with her. Successful commercial relations are impossible when there is no understanding, and so far as the list shows, no interest.

In addition to these books already mentioned we have, of course, several books of travel, insufficiently localized to be classified with any particular country. These books of travel furnish valuable material and must be thought of as supplementing the ideas of practically all the countries mentioned.

In summing up the situation, we find practically all the regions of the earth except the polar regions and certain island groups mentioned with more or less frequency. Some are given with sufficient clearness, as is the case with the United States, Alaska, England, and Scotland; others are given with evident inadequacy. Therefore, the results of the geographical investigation might be summed up as follows:

1. The United States, in all sections, is revealed with entire adequacy.
2. England is satisfactorily pictured.
3. Scotland is fairly well illumined.
4. France and Canada are not so well revealed.
5. Greece, Italy, Russia, Sweden and Norway, Spain, Palestine, and India need more general and frequent attention.
6. Other parts of the globe receive entirely inadequate treatment.

This situation challenges the statement of any aim such as that of attempting to broaden the child through mental experience in various geographical sections of the world. If it is a legitimate aim, as is assumed, and if it is worth stating in the course of study, why is so little effort made to meet it? Is it because English departments are bound by custom in the books they select, is it because they are over-conservative, or is there really nothing on these countries that would be suitable to give to high school students? An answer to the last question can be found only in an exhaustive and careful study of the literature of the world.

A study of the literatures of the world may reveal considerable material on some countries which will be very suitable for use on these reading lists after it is translated. Such material adequate as to literary form, moral tone, etc., should be seized and incorporated into the book lists. Again, for certain other countries, nothing at all may be found. It may be necessary in such cases, to supplement the situation by material of a didactic nature. In the meantime, perhaps it will be necessary to call for authors to produce the type of thing, for the interesting and normal way of seeing and knowing a country is to know it as a background for the drama of human action. Always the English teacher must be on the alert to discover any new material which may be added to the lists to help in the realization of the objectives of education and in particular those of reading.

To sum up then, there should be

1. A revision of the reading lists recommended by English departments in high schools with the definite purpose of making possible the realization of the objective of widening the pupil's geographical consciousness.

To do this it is necessary

(a) To incorporate into the reading lists any suitable literature which is found to reveal various countries that are inadequately treated at the present.

(b) To make a careful study of existing literature on various parts of the world.

(c) To be on the alert for the discovery of all new and available as it appears.

(d) To ask for material to be prepared where it does not seem to exist already.

(e) To realize to the full the importance of broadening the pupil's geographical horizon.

The afternoon session opened with the report of the nominating committee which presented the following nominations: for President, Miss Clara Hawks of Cicero; for Secretary, E. C. Baldwin of the University; for Treasurer, Miss Zada Thornsburg of Urbana; as Chair-

man of the Executive Committee, Mr. DeF. Widger of Charleston; and to fill vacancies on the Executive Committee, Miss Bertha Smith of Oak Park, and Miss Koch of Rockford, (terms to expire in 1924).

The afternoon was devoted to a consideration of the report of the committee on classics for high school literature. Miss Eva Mitchell of Englewood in her paper on "Objectives" clearly demonstrated by her analysis of the answers to the questionnaires sent out that the teachers are by no means certain as yet what they are trying as teachers of English to accomplish. The responses to fifty of these questionnaires named no less than two hundred "objectives." It would appear, therefore, that there is considerable divergence of opinion as to the purpose of the teaching of literature.

In marked contrast to the haziness of these answers from teachers was the definiteness of the suggestions offered by people outside the teaching profession to whom the committee had appealed. The consensus of opinion among these outsiders appeared to be that during the first two years of the high school course the reading of pupils should be extensive; and in the last two years, intensive. Speaking more in detail, these outside critics advocated that ten or a dozen books be read in each of the first two years, that written reports be eliminated, that teachers do much reading aloud to their classes, that Burke, Carlyle, and Milton be reserved till pupils are past the adolescent period. Equally definite were the suggestions for the work of the second two years. Study a few things intensively so as to equip the pupil with standards of literary judgment; but do not "pick the bones." Avoid wearying the student with pedantic study of details. Encourage the reading of the better class of current magazines. Eliminate so far as possible the study of literary history. The student will not be helped by exploring the mystery of the growth of the romantic movement in the eighteenth century. Such was the gist of the prescription offered by critics outside the schools.

Miss Mitchell's report and Miss Hawk's discussion of it follow:

## Objectives and Objectives

### Eva Mitchell, Englewood

An abstract of part of the report of the English sub-committee on Curricular Reconstruction.

When the English sub-committee on Curricular Reconstruction was asked to attempt a suggestion on minimum essentials for high schol literature, there were two classes of people from whom we sought information and suggestion: those persons who receive our students when they finish high school, and the teachers of high school English.

The former were considered as being divided among three classes: college instructors, business people and home makers. We selected a list of broadminded, thinking persons from each of these groups and sent out questionnaires asking their honest opinions on two queries:

1. What should be the objectives of high school English, for the first two, and the last two years?

2. Should reading of different high school courses be differentiated?

To this inquiry we received answers from scores of interesting, interested persons.

In compiling the results we found the outside world agreed that during the first two years high school children should be interested in reading; and that during the last two they should acquire a background on which to base their future judgment and choice of reading: that the first two years should be given over to extensive reading of anything, everything that will furnish a desire to read; and the last two devoted to a more intensive study of a less extensive field, such study to be definite enough to be relied upon when the student begins to select his own literature.

Many suggestions were offered for the first two years of extensive reading: that students be made to realize that literature is written by real people concerning real people, that there is a purpose for it, a message in it; that they acquire a common background of tradition; that the assignments belong, as many as ten or twelve books a year, with no written reports; that, above all, teachers should *read to* these younger students.

In the second section suggestions were fewer but just as emphatic: that there should be less red tape and analysis; that the discussion never degenerate to "picking the bones;" that the doses of History of Literature be small; that "no such mysteries as the Romantic Movement be included."

When these people answered the query as to whether the same classics should be read by all students regardless of what courses they were taking, the vote registered three to one in the affirmative. Differentiation in taste and inclination must be taken care of in the outside reading assignments according to our friends outside our school rooms.

Then we asked the teachers themselves what their objectives were. Whether they did not give the questionnaire the same care accorded it by the laity, or what reason may have intruded, we can not say. We only know that there is the greatest divergency of opinion; that from the first fifty answers we compiled over two hundred objectives, an array from which we can draw absolutely no conclusion except that prescribed lists are being covered one way or another.

Since it was not a part of this committee's assignment to make dictation on objectives, and since minimum essentials cannot be compiled without them, we are compelled to pass our unfinished commission to the committee which will unearth or dictate objectives.

## High School Classics—Surveys and Suggestions

### By Miss Clara Hawks

In the October number of the *English Journal*, as many of you have noted, occurs an article entitled *In Behalf of Standardized Reading*, written by Edith R. Merrieless of Leland Stanford University. This is not a brief against diversity in English courses or a protest against the adaptation of literary material to the individual need, it is a simple statement of a significant fact. Here is the case as Miss Merrieless has observed it.

Formerly the entering freshman, no matter what part of the English-speaking world he came from, had, as part of the high-school training he brought with him, a greater or less knowledge of some twenty classics. These were the common property of the entering group. Within the last two years this is changing notably. But two books are holding their own, *Silas Marner* and *Merchant of*

*Venice.* In this Miss Merrieless sees a danger to what she believes to be "the most important service rendered by the teaching of English literature," the building up of a common heritage of mental images and ideals—a factor of vast importance to American youth in this twentieth century.

Whether the colleges and universities of Illinois would find a similar condition should they test for their freshmen's common literary heritage we do not know. Whether this common literary heritage is not more important in the long run than individual likings or personal predilections we may ponder upon in our hours of ease—we teachers of English literature.

The purpose of this committee now asking your attention is the standardizing of a small body of the high school reading. Is it not almost a crime that any Illinois high school boy should be cheated out of an acquaintance with James Fitz James, Sidney Carton, or the Black Knight or that any of our girls should fail to be present at the toilet of Nancy Lammeter and her unselfish sister or the melodramatic defiance of the lovely Rebecca?

Perhaps instead of making these new and lasting friends, our boy or girl has been introduced *three* times to Lancelot and Elaine or four times stopped by the Ancient Mariner of the glittering eye, and all because, forsooth, his family moved from Easton to Westville and then to Northport.

A small standardized nucleus of reading for each high school year, the selections based upon simple, well-defined objectives; added to this, perhaps, a suggestive "fringe" from which each school may select what best suits its needs and to which it may add as its individual objectives require—this is our purpose. This is the problematic sea on which your committee embarked—"sans everything." We have rowed vigorously but made only small progress. We hope, however, to put before you so convincingly the possibilities of the land toward which we sail that you will equip a squadron next year to finish the expedition.

As all well-regulated and legal educational investigations should, we began with a questionnaire, in which we stated *our* objectives and asked your assistance in answering a few questions. To these more than 125 teachers were kind enough to respond. If from this report grows anything of value, you may justly feel it yours.

From a tabulation of these questionnaires the committee has tried to deduce five things:

First, what our objectives in the teaching of literature really are.

Second, what English classics are being read in Illinois high schools.

Third, which of these classics are believed by teachers to be of greatest value in reaching the objectives set up.

Fourth, what classics are best suited for use in the first, second, third, and fourth years of the course, in view of our objectives.

Fifth, what the belief and the practice of Illinois teachers is in respect to modern literature as part of the English course.

The first of these topics, our objectives, has just been put before us most convincingly by Miss Mitchell. Miss Sturgeon is to take up the problem of the literature of the present and its place in our English course. To the speaker falls the task of diagnosing, as well as she is able, the condition of the classics in the high schools of Illinois—as far as represented by these questionnaires.

The distribution of the classics through the different forms of prose and poetry was highly interesting. 165 titles were listed. Of these 39 were novels, 28 were short story collections, either of individual authors or compilations of classic or modern short stories. 26 might be classed under essays or miscellany and 6 as speeches or orations. There were 17 anthologies, English and American, prose or poetry or both. 11 of Shakespeare's dramas were found in the lists, no course failing to include two or more, but in all the state of Illinois but *six* other.

plays are being studied by high school students. Besides all these there were 31 other poetry titles, either single selections or author collections.

Taking up this poetry section first, of the 31 entries we may eliminate from our present consideration two classes as not representative. First, a few usually read before the high school years, as *Evangeline, Courtship of Miles Standish, Hiawatha,* and *Snowbound;* and second, a few so seldom used as to seem by consensus of opinion unsuited to the average high school student. In this class may belong Milton's *Comus,* Pope's *Essay on Man* and *Rape of the Lock,* Dryden's *Palamon and Arcite* and *Absolem and Achitophel.* It is true that but two collections of strictly modern verse appeared in any course but surely not for the same reason as the lonely grandeur of *Absolem and Achitophel.*

Excluding the poetry which might be classed as sub-freshman and super-senior, we have left a goodly list. At the head stands *Idyls of the King,* appearing in 82 courses, *Lady of the Lake* in 50, *Ancient Mariner* in 40, Milton's *Minor Poems* in 38, *Sohrab and Rustum* in 28, *Vision of Sir Launfal* in 18, *Iliad* in 15 and *Odessey* in 16 (not always in metrical translations, however). Teter's *Hundred Narrative Poems* was a favorite for freshman use, appearing 15 times in that year. To list all the others would be a tiresome recital of no practical use in our present study.

29 novels were listed in the courses represented. *Silas Marner,* 85 times; *Ivanhoe,* 65 times; *Tale of Two Cities,* 63 times—these lead the field with *House of Seven Gables* and *Treasure Island* a slow fourth and fifth, 27 and 26 times. Thirteen titles appeared but once and include some which, while they may be well-suited to the school using them, are not probably of value for general high school class use, as *Marble Faun, Scarlet Letter, Adam Bede, Cloister and the Hearth, Two Years Before the Mast, Ben Hur.* Though found in the lists two or three times, *Romola, Vanity Fair, Les Miserables,* even *Jane Eyre* and *Pride and Prejudice,* might be debatable.

Lest we be accused of obsolete prudishness, we pause to explain that the moral problems involved in some of these masterpieces are not our reason for thinking them debatable. They are white peaks above the miasmal marshes of movies where our young people roam. It is, however, a question of what the average teacher with the average class in the average conditions can do best.

Again, in this novel list we note the absence of the modern. But three novels of the last thirty-five years appeared on the questionnaire lists. Perhaps it's small wonder that Harold Bell Wright, is, to so many, the Shakespeare of the present!

The list of essays read was a long, varied, and orthodox one. *Sir Roger de Coverley* formed a part of 40 courses. Carlyle's *Essay on Burns* was found in 24, selections from Emerson in 26, and Macaulay's *Life of Johnson* in 14. Ruskin, Lamb, and others appeared two or three times. Burrough's nature essays were found good for the first year work.

Occasionally a hint of the modern was seen in the use of some of the *Atlantic Classics.* Two schools use Palmer's *Self Cultivation in English* and two are so daring as to include in their first year work a little book on *Manners* and one on *How to Study.*

Franklin's *Autobiography* stands alone in its class, 18 times. The speeches and orations were soon told, six in all, of which three are our old friends, Washington's *Farewell,* Webster's *Bunker Hill* and Burke, embalmed in our awe and admiration, to say nothing of the *brief.*

In the drama class were included 11 Shakespeare plays, of which four have a very high per cent of use. *Macbeth* is studied in 84 schools; *Merchant of Venice* in 83; *Hamlet* in 79; *Julius Caesar* in 70. Of the comedies *As You Like It* and *Twelfth Night* are read most often though not half so frequently as the tragedies.

The other plays that have so far found a place in our English curriculum are *Antigone, She Stoops to Conquer, Rivals,* Ibsen's *Pillars of Society,* and Galsworthy's *Strife* and *Justice,* six in all and read in but fifteen of the schools reporting.

This is a cursory summing up of the status of the various classics in the Illinois high schools as shown by some 125 questionnaires from schools large and small, with English courses organized, in the making, and unmade. The result is suggestive, not only of what we have but of what we have not.

Of even greater interest are the selections noted as of special value in reaching the objectives set up. Was it not significant that while most of the questionnaires indicated definite objectives in the teaching of literature, many of them failed to give any idea what classics were believed to be best suited for reaching these objectives? Is it not fair to conclude that when we see *nothing* we read as of special value in reaching an objective or everything of equal value that we are uncertain in our sense of values? Then, too, there is plainly something askew when *Ivanhoe* aids chiefly in sentence structure and the *Ancient Mariner* in patriotism.

There were, however, many teachers who were clear as to the classics of value to them. The correlation between the number of times a classic appeared in the lists and the number of times it was starred as of value shows interestingly in some of the higher per cents.

| | | | |
|---|---|---|---|
| *Enoch Arden* | 70% | *Silas Marner* | 50% |
| *Ivanhoe* | 49% | Macbeth | 44% |
| Merchant of Venice | 38% | Tale of Two Cities | 36% |
| Lady of the Lake | 30% | Hamlet | 25% |
| | | Essay on Burns | 25% |

The high rating of many of the classics may not be due entirely to the value of the classic as literary material, however, but to two other elements.

First, these classics having been long in our courses have been well taught *to* many teachers and hence better taught *by* them than in the case of other books, good or better, but calling for more initiative on the part of the teacher.

Second, certain classics probably have a high conceded value because, in the gradual adjustment growing out of many years of use, they have finally settled into that particular part of the literature course where they serve best.

This brings us to the third part of our survey of classics in our high schools. Their distribution through the various forms of prose and poetry was an interesting factor.

The classics considered of greatest worth by teachers was a valuable factor. The distribution of these classics through the four years of the high school course is illuminating in view of our efforts at standardizing.

With the Shakespeare drama, usage was remarkably uniform. For example, in the first year we found *Merchant of Venice* 66 times out of a total of 83; in the second year *Julius Caesar* appeared 57 times out of 70; in the third year *Macbeth,* 62 out of 85; in the fourth year, *Hamlet,* 70 out of 79. A few novels were in comparatively stable equilibrium. In the first year *Treasure Island* and *Last of the Mohicans* were securely fixed and *Ivanhoe* had a well-defined place over the other years. *Silas Marner* without doubt belongs in the second year according to the questionnaire verdict, and *A Tale of Two Cities* is most often found there. *The House of Seven Gables* appears as many times in the third as in all other years combined.

*Sohrab and Rustum, Lady of the Lake, Ancient Mariner,* and some translation of the *Iliad* or *Odessey* are fairly static in the first year and *Idyls of the King* in the second while Milton's minor poems, the *Prologue to the Canterbury Tales* and the *Golden Treasury* are conceded to the third or fourth years as is

Burke's *Conciliation.* Carlyle on *Burns* and selections from Emerson are the portion of third or fourth year students and Burrough's nature essays of the first, where *The Sketch Book* also seems to have settled.

These seem rather good illustrations of the fact that things usually find their rightful level. One exception, however, is found in Sir Roger de Coverley. Though only one teacher found him of special value in the first year, he is found there three times as often as in all the other years together. Sir Roger's place should be investigated.

In contrast, however, to this handful of books somewhat fixed in our courses both by majority of use and majority of commendation, we have a great number which are nomads wandering through the four years. To note only a few examples. Even *Tale of Two Cities, House of Seven Gables, Sohrab and Rustum, Vision of Sir Launfal,* and *Idyls of the King* are widely listed in all four years. *The Deserted Village* and Poe's *Tales* are distributed equally from the freshmen through the senior year. Washington's *Farewell* and Webster's *Bunker Hill Oration* are used from first through fourth, and Franklin's *Autobiography* is read as much in the first as in the third.

Now if this were simply a matter of waste in the case of the Methodist minister's son or the commercial traveler's daughter, who move from Easton to Westville and then to Northport, it would be worth consideration, but it is much more. While we know that *The Vision of Sir Launfal* may be studied for one purpose in the first year and another in the fourth, yet there must be one best place for it. In the report on the *Reorganization of English in Secondary Schools* this is well put:

"Although the greatest freedom should be possible in the selecting of literature for the high school course, there are certain well-established facts that may guide teachers in the determination of the best grouping for different years. Although, given a live, enthusiastic teacher and a normal class, almost any piece of literature may be read with some success at almost any time, there is always a best time when, because of certain dominant tendencies in the pupil, a book makes its strongest appeal with minimum help from the teacher because it presents the maximum interest for the student."

Should we not try to find this best time?

Some may object to such efforts at uniformity, believing that circumstances alter cases, that boys in a north Chicago suburb and boys in a community high school in the corn belt need a different literary diet. We subscribe, reservedly, to this doctrine and wondered that we found so little evidence of its practice. Springfield has a Lincoln cycle—could anything be finer in that place of Lincoln? Two or three schools located among a large foreign population have wisely included Mary Antin's *At School in the Promised Land.* But these instances are conspicuously rare. For the most part Easton, Westville, Northport, and South Bend read the same things—but in the most diverse sequence. Would not all be better served if a dozen books which most of us agree should be the common literary heritage of Young America were selected, the best place for each found, and then when this standardized minimum is secured, each school were urged to add what best suits its habitat? Would this not be the ideal uniformity in variety?

This is what your committee wishes might be done, but until we all are clearer as to our aims in having a course in literature at all, attempts at standardizing our classics seem a bit like locating the vehicle in advance of the equine. And yet if a vehicle is left standing conveniently near, it may suggest the desirability of hitching it to something and proceeding; therefore we are suggesting a list of twenty-five classics divided into four groups. These are not for adoption. They "would be scanned."

*First Year*

Last of the Mohicans
Treasure Island
Julius Caesar
Sohrab and Rustum
Lays of Ancient Rome
Iliad or Odessey
Lady of the Lake

*Second Year*

Silas Marner
Ivanhoe
Tale of Two Cities
Merchant of Venice
As You Like It
Ancient Mariner
Idyls of the King

*Third Year*

Prologue to Canterbury Tales
Milton's minor poems
Macbeth
Twelfth Night
Sir Roger de Coverley papers
Essay on Burns or Johnson
Palgrave's Golden Treasury

*Fourth Year*

Franklin's Autobiography
House of Seven Gables
Hamlet
Burke's Speech on Conciliation

This committee knows that it has accomplished little, but it has discovered some things that need doing. First, we need an objectives committee that shall formulate for us at least one objective, definite and pedagogically sound, for each of the high school years in literature. Second, we need a classics committee that, beginning with the minimum list presented, shall test each classics by these objectives. In cases of doubtful standing—delectable Sir Roger, for example—books should be given trial in different years of the English curriculum until their "best place" be found. Third, we need a modern literature committee that shall formulate a list of present-day literature suitable for use in the high school and enlist recruits to try out promising books. It would be delightful and worth while to use the new book of Kipling stories with a group of students, or Thomas and Paul's *Story, Essay and Verse,* or Miss Cohen's *One Act Plays by Modern Authors,* and watch and report results.

An open-minded committee on useable modern literature, an efficient committee for testing and further standardizing the list of classics, a strong committee on objectives in the teaching of literature—to these and others on curriculum reconstruction, this committee bequeaths its results, if found, and its good will.

POETRY

| | First Year | Second Year | Third Year | Fourth Year |
|---|---|---|---|---|
| Iliad | 9*2 | 4*2 | 1 | 1 |
| Sohrab and Rustum | 15*5 | 9*2 | 3 | 1 |
| Lays of Ancient Rome | 5*1 | 1*1 | 0 | 0 |
| Odessey | 15*5 | 1 | 0 | 0 |
| Ancient Mariner | 26*3 | 12*3 | 1 | 1 |
| Lady of the Lake | 36*10 | 13*5 | 0 | 1 |
| Enoch Arden | 8*6 | 2*1 | 0 | 0 |
| Vision of Sir Launfal | 6*4 | 7*2 | 4*3 | 1*1 |
| Idyls of the King | 6 | 41*9 | 27*7 | 8*4 |
| Marmion | 1 | 2*1 | 1 | 1 |
| Elegy in Country Churchyard | 3 | 4 | 0 | 0 |
| Deserted Village | 3 | 2 | 2 | 1 |
| Evangeline | 1 | 0 | 1 | 0 |
| Snowbound | 2 | 1 | 0 | 0 |
| Tales of Wayside Inn | 2*1 | 0 | 0 | 0 |
| Courtship of Miles Standish | 0 | 1 | 0 | 0 |
| Milton's Minor Poems | 0 | 1 | 23*2 | 14*3 |
| Comus | 0 | 1 | 0 | 1 |

| | First Year | Second Year | Third Year | Fourth Year |
|---|---|---|---|---|
| Prologue to Canterbury Tales | 0 | 0 | 10*1 | 7*3 |
| Palgrave's Golden Treasury | 0 | 0 | 8*1 | 8*2 |
| The Princess | 0 | 0 | 4*1 | 2*1 |
| Paradise Lost | 0 | 0 | 1 | 3 |
| Essay on Man | 0 | 0 | 0 | 1 |
| Palamon and Arcite | 0 | 0 | 2 | 0 |
| Rape of the Lock | 0 | 0 | 1 | 1 |
| Absolem and Achitophel | 0 | 0 | 1 | 0 |
| Thanatopsis | 0 | 0 | 1 | 0 |
| Selections from Browning | 0 | 0 | 1 | 3 |
| Selections from Burns | 1 | 0 | 1 | 1 |
| Selections from Tennyson | 0 | 0 | 1 | 1 |
| In Memoriam | 0 | 0 | 0 | 1 |
| Dream of Gerontius | 0 | 0 | 0 | 5 |
| **Novels** | | | | |
| Last of the Mohicans | 11*7 | 5 | 1 | 0 |
| Silas Marner | 23*13 | 58*30 | 4 | 0 |
| Adam Bede | 0 | 0 | 0 | 1 |
| Mill on the Floss | 0 | 0 | 3 | 3 |
| Romola | 0 | 0 | 0 | 2 |
| Ivanhoe | 36*20 | 27*12 | 2 | 0 |
| Kenilworth | 0 | 1 | 0 | 1 |
| Talisman | 1 | 0 | 1 | 0 |
| Quentin Durward | 0 | 2 | 1*1 | 0 |
| Treasure Island | 26*6 | 2*1 | 0 | 0 |
| Kidnapped | 1 | 0 | 0 | 0 |
| Tale of Two Cities | 3 | 34*16 | 19*4 | 7*3 |
| David Copperfield | 3 | 6*1 | 2*1 | 0 |
| Oliver Twist | 3*1 | 0 | 0 | 0 |
| Christmas Carol | 9*2 | 2*1 | 0 | 0 |
| Great Expectations | 1 | 0 | 0 | 0 |
| Nicholas Nickleby | 1 | 0 | 0 | 0 |
| Our Mutual Friend | 1 | 0 | 1 | 0 |
| House of Seven Gables | 2*2 | 8*1 | 13*4 | 3*3 |
| Marble Faun | 0 | 0 | 0 | 2 |
| Scarlet Letter | 0 | 0 | 0 | 1 |
| Last Days of Pompeii | 0 | 1 | 0 | 0 |
| Henry Esmond | 0 | 0 | 3 | 3 |
| Vanity Fair | 0 | 0 | 2 | 3 |
| Vicar of Wakefield | 0 | 7 | 5*1 | 2 |
| Les Miserables | 0 | 0 | 1 | 1 |
| Pride and Prejudice | 0 | 0 | 2 | 2 |
| Jane Eyre | 0 | 0 | 0 | 2 |
| Two Years Before Mast | 0 | 0 | 1 | 0 |
| Cranford | 0 | 0 | 2 | 0 |
| Cloister and Hearth | 0 | 0 | 0 | 1 |
| Ben Hur | 0 | 0 | 0 | 1 |
| Lorna Doone | 0 | 1 | 3 | 0 |
| Silas Lapham | 0 | 4 | 3 | 0 |
| Crisis | 0 | 1 | 0 | 0 |
| Spy | 0 | 1 | 1 | 2 |
| Uncle Tom's Cabin | 0 | 1 | 0 | 1 |
| Man without a Country | 6 | 1 | 0 | 0 |
| Dr. Jekyll and Mr. Hyde | 0 | 1 | 0 | 2 |

### Short Stories

| | First Year | Second Year | Third Year | Fourth Year |
|---|---|---|---|---|
| Sketch Book | 19*8 | 5*1 | 2*1 | 2 |
| Old Testament Narratives | 15*3 | 2 | 1 | 1 |
| Travels with a Donkey | 0 | 1 | 2 | 0 |
| Twice Told Tales | 3*2 | 2 | 0 | 0 |
| Tales of Traveler | 2 | 0 | 1 | 0 |
| Selections from Hawthorne | 1 | 0 | 0 | 0 |
| Lamb's Tales | 1 | 0 | 0 | 0 |
| Poe's Tales | 4*1 | 5 | 7*2 | 5 |
| Classic Myths | 3 | 0 | 0 | 0 |
| Alhambra | 0 | 4*1 | 0 | 0 |
| Tanglewood Tales | 0 | 1*1 | 0 | 0 |
| Stickeen | 1 | 0 | 0 | 0 |
| At School in Promised Land | 2 | 0 | 0 | 0 |
| Thousand Year Pine | 1 | | | |

### Collections of Short Stories

| | | | | |
|---|---|---|---|---|
| Types of Short Story (Heydrick) | 1*1 | 6*2 | 5 | 1 |
| Reading from Literature (Halleck and Barbour) | 3*2 | 0 | 0 | 0 |
| Ashmun's Prose Literature | 4 | 0 | 0 | 1 |
| Atlantic Prose and Poetry | 2*1 | 0 | 0 | 0 |
| Modern Short Stories (Law) | 1 | 1 | 0 | 0 |
| Short Stories (Plee and Miller) | 1 | 0 | 0 | 0 |
| Short Stories (Mickels) | 1 | 4*2 | 0 | 1 |
| Stories of New America (La Salle) | 1 | 0 | 0 | 0 |
| Americans All (Heydrick) | 1 | 1 | 0 | 0 |
| French Short Stories | 1 | 0 | 0 | 0 |
| Atlantic Narratives | 0 | 1 | 1 | 2 |
| Russian Short Stories | 0 | 1 | 0 | 0 |
| Best Short Stories (Sherman) | 0 | 0 | 1 | 2*2 |
| Short Stories (Moulton) | 0 | 1 | 2 | 3 |

### Orations and Speeches

| | | | | |
|---|---|---|---|---|
| Washington's Farewell Address | 4 | 0 | 7 | 10*3 |
| Bunker Hill Oration | 4 | 0 | 7 | 11*2 |
| Lincoln's Speeches | 1 | 0 | 3*1 | 5*1 |
| Democracy Today | 0 | 0 | 1 | 5 |
| Burke's Speech on Conciliation of America | 0 | 0 | 8*3 | 27*4 |
| Webster Hayne Debate | 0 | 1 | 0 | 1 |

### Essays and Miscellany

| | | | | |
|---|---|---|---|---|
| Sir Roger de Coverley | 31*1 | 2 | 3 | 4 |
| Franklin's Autobiography | 8*1 | 2 | 6*1 | 2 |
| Oregon Trail | 1 | 4 | 0 | 3 |
| Selections from Burroughs | 7*2 | 1 | 0 | 0 |
| Selections from Ruskin | 0 | 1 | 3 | 1 |
| Selections from Roosevelt | 0 | 1 | 0 | 0 |
| Essays of Elia | 0 | 2*1 | 0 | 3*1 |
| Walden | 0 | 1 | 1 | 0 |
| Life of Johnson (Macauley) | 0 | 3*1 | 5 | 7*1 |

| | First Year | Second Year | Third Year | Fourth Year |
|---|---|---|---|---|
| Essay on Burns (Carlyle) | 0 | 0 | 11*2 | 13*4 |
| Essay on Milton (Macauley) | 0 | 0 | 0 | 2 |
| Essay on Addison (Macauley) | 0 | 0 | 0 | 1 |
| Essay on Warren Hastings (Macauley) | 0 | 0 | 0 | 1 |
| Lord Clive | 0 | 0 | 1 | 1 |
| Heroes and Hero Worship (Carlyle) | 0 | 0 | 0 | 1 |
| Selections from Emerson | 0 | 1 | 9*3 | 16*3 |
| Selections from Stevenson | 0 | 0 | 1 | 1 |
| Selections from Huxley | 0 | 0 | 0 | 1 |
| Autocrat of Breakfast Table | 0 | 1 | 1 | 2 |
| Pilgrim's Progress | 0 | 4*1 | 0 | 0 |
| Builders of Democracy | 0 | 2 | 0 | 2 |
| Atlantic Essays | 0 | 1 | 0 | 1 |
| Essays and Essay Writing (Tanner) | 0 | 1 | 0 | 2 |
| Self Cultivation in English (Palmer) | 0 | 0 | 2*1 | 0 |
| How to Study | 1 | 0 | 0 | 0 |
| Manners | 1 | 0 | 0 | 0 |
| **Shakespeare** | | | | |
| Julius Caesar | 8*6 | 57*18 | 5*1 | 0 |
| Merchant of Venice | 66*24 | 16*8 | 1*1 | 0 |
| As You Like It | 6*1 | 19*5 | 13*5 | 0 |
| Midsummer Night's Dream | 5*1 | 2 | 2 | 1 |
| Twelfth Night | 1 | 6 | 7 | 0 |
| Macbeth | 0 | 0 | 62*25 | 23*12 |
| Hamlet | 0 | 0 | 9*3 | 70*17 |
| Henry | 0 | 0 | 1 | 1 |
| King Lear | 0 | 0 | 1 | 2 |
| Tempest | 0 | 0 | 1 | 1 |
| Romeo and Juliet | 0 | 0 | 1 | 2 |
| **Plays other than Shakespeare** | | | | |
| Antigone | 0 | 0 | 2 | 1 |
| Pillars of Society | 0 | 0 | 1 | 0 |
| She Stoops to Conquer | 0 | 0 | 3 | 2 |
| Rivals | 0 | 0 | 2 | 1 |
| Strife | 0 | 0 | 2 | 1 |
| Justice | 0 | 0 | 0 | 1 |
| **Anthologies** | | | | |
| Readings from American Literature (Pace) | 0 | 1 | 6 | 2 |
| Three Centuries of American Prose and Poetry (Newcomer Andrews) | 0 | 2 | 9 | 8 |
| Twelve Centuries of English Prose and Poetry | 0 | 0 | 10 | 17 |
| American Literature through Readings (Simons) | 0 | 0 | 1 | |
| Reading from American Literature (Calhoun & Macalarney) | 0 | 0 | 1 | 2 |
| Chaucer to Kipling | 0 | 0 | 1 | 0 |
| American Poems (Long) | 0 | 0 | 1 | 0 |

| | First Year | Second Year | Third Year | Fourth Year |
|---|---|---|---|---|
| American Poets | 0 | 0 | 0 | 1 |
| Types of English Literature (Rich) | 0 | 0 | 0 | 1 |
| English Prose and Poetry (Pancoast) | 0 | 0 | 1 | 0 |
| Modern Prose Selections | 0 | 0 | 0 | 1 |
| Shorter English Poems (Scudder) | 1 | 0 | 0 | 1 |
| Ballads | 2 | 1 | 3 | 0 |
| Hundred Narrative Poems (Later) | 13*1 | 2 | 0 | 0 |
| High Tide | 0 | 1 | 0 | 0 |
| 101 Best Poems | 0 | 0 | 0 | 1*1 |
| Little Book of Modern Verse (Rittenhouse) | 0 | 0 | 1 | 1 |

A paper by Professor Woolbert concluded the session. A brief of the paper follows:

## Fundamentals in the Teaching of Better Speech

### Charles H. Woolbert, University

It is no exaggeration to say that probably more lives are thwarted through imperfect speech than through any other one cause. Men of high thought and noble living live as hermits and recluses because they go all to pieces when they try to tell other people what they know and feel. Women who might make their lives count in the community, hide their talents behind their fear of speaking in public places. The thousands of stutterers, mutterers, mumblers, lispers, who bring the elevated brow and even the smile of derision when they make their pitiable attempts at speaking, are the saddest kind of spectacles for a civilized society. Shortcomings and positive defects of speech are not only as common as "odd sticks" in our society, but they are most of the times the very causes of the oddity; at least they are an inseparable accompaniment. In most cases the cure of the speech oddity and the mental twist are worked out at one and the same time.

Thus speech training is in effect character training. Nothing more typically reveals character than speech; for the reason that they are inseparable. Speech is but the outward mark of the inward condition. Cure character and you improve speech; improve speech and you mend character. Make boys and girls better able to say what they mean and to say it well, and the world immediately treats them differently and molds them into a better form. Speech to a boy or a man is like clothes or like hair on the face; any oddity in either causes the world to treat the wearer or user differently. A boy who raises a beard invites and is subjected to molding influences different from those given a boy who does not; a girl who wears freak clothes gets marked differently by her environment. So one who has an oddity or weakness of speech is at all times subject to unkind, unhelpful, and unprofitable treatment from the whole world he meets.

We must even go so far as to say that most people are not trained to detect poor speech, let alone to suggest the cure. Most of us accept faulty speech as just so much evidence of odd character, and let it go at that as if there were nothing more to say or do about it. Schools have far too long taken this attitude. But we are learning that only the smallest kind of minority of boys and girls speak as well as they ought or as well as they can be trained to speak. Well prepared teachers recognize this now as axiomatic. With such recognition has come an increased knowledge, on the part of alert teachers, of the science of speech training and of the various kinds of difficulty their charges suffer. The more we know, the greater the help we can render. The solution of most of the speech ills of boys and girls, and of the men and women they will some day be,

lies probably in the increased knowledge of speech matters by teachers in the primary and secondary schools. Much is known; much more is to be learned.

### *The Field of Speech Training*

For boys and girls of the high school age there is not much need to emphasize technical theory; they need just enough to help them criticize themselves. Still if there is to be genuine training, they will have to have principles and standards to guide. The problem is to give them the right amount. Such advice as "Be natural," "Put more feeling into it," "Be yourself," "Be more expressive" may help a little; but they are not the basis of teaching, and they give the student almost nothing as a guide for bettering his ways.

The only way to teach is to include *criticism,* and the only way to make criticism effective, for present and future—especially for the future—is to be guided by laws. These laws can be simple or they can be complex, but they must be correct and binding. When stated clearly they constitute a common language for teacher and student, for one student and other students, and for the student telling himself his faults and deciding what to do about them.

Added to the necessity for simple rules and their application through criticism, is the need of an urge toward good habits, the desire to be better tomorrow than today. Students who can be made to want to speak better can be taught to do so. A good many have to be induced even to want to improve. Too large a number are not even aware that there is a difference between them and their mates in the matter of Speech; we do them a favor when we take the scales from their eyes—or the mufflers from their ears. Often enough the teacher does his best work by making boys and girls see how poor they are; natural pride then becomes the steersman.

Then again nothing succeeds like success. One victory begets others. So then everything that will help the pupil to achieve successes in his training in Speaking and Reading is gain; it makes him all the more alert for the next try. Even the dullest and the most perverse can be brightened and made tractable by success.

*All Speech is Learned.* There was a time when people thought of speech as an instinct, something hereditary, handed down from the parent to the child, something not learned. Handed down it is, but not unless the child does the necessary learning. A child brought up among mutes and not exposed to hearing people's conversation, would never learn to talk. Children always learn the language of their parents; there is no instinct for English or Italian or French; the language is always and in each case learned. Even further, children learn the tones of voice of their parents and friends; they acquire the same rough or smooth quality, the same noisiness or softness, the same drawl or staccato, the same monotony or vividness of pitch changes.

As a matter of plain fact what we are talking about when we speak of speech training for high school pupils is largely, not learning, but *re*learning. They have all learned to speak; they speak; much and often, and with some degree of competence. The task of the high school teacher is to teach them over again, to revise their ideas and habits, to give them new ideals and new methods. To do this most successfully it seems clear that the teacher must reenact much of the history of the first learning, with a watchful and intelligent eye to avoid the pitfalls into which most children have fallen in babyhood and early childhood.

### *How Speech is Learned*

*Random Movement the Beginning.* The child is born unable to speak; but it has an apparatus all ready to begin so soon as he gets enough control to use it. A new-born baby does nothing that is orderly and systematic—except to perform the processes of nutrition. Everything else is random, wild, uncontrolled. Its

arms, legs, and particularly its vocal apparatus work altogether at random. Whatever it does it does wildly and in a manner entirely uncontrolled. Now what we call speech is a most definitely controlled affair. The change from the gurglings, babblings, wails, grunts, screams, and cooings of the baby to the coherent use of conventional language is a long journey, most significant and important. It follows all the stages of the learning process. There are no jumps; everything in the progress is orderly,—from movement that is purely random to activity that is controlled and according to rule.

All learning involves these steps; (1) random movement followed by (2) success in getting something very much desired, (3) with consequent reduction of the randomness and (4) increased ability to do the thing with one movement, or at least directly. This very way the baby gets its first lessons in talking. In its googlings and babblings it makes certain sounds. These are heard by parents and attendants. If these sounds happen to be such as have meaning for the listeners, the eager friends assume that the baby has spoken.

It so happens that there are sounds that a baby can make more easily than others; his mouth and vocal machinery is built that way. Among these sounds are ma-ma, pa-pa, da-da, goo-goo.

Here is where the learning process comes in; by making such sounds and repeating them, the child eventually gets something it desires; petting, relief from a strained position, a jumping up and down (very pleasant to babies as well as to grown-ups; as in riding, dancing, looping the loop). While doing something it likes, it makes these sounds. Later when it gets the glimmering of a will and definiteness of purpose, desiring its wants satisfied on time and in full degree, it develops the habit of making these sounds that formerly accompanied its successes. It soon learns that by saying "ma-ma," it gets attention of the most desirable kind; food and coddling and comfort. It learns the same lesson for saying "pa-pa" and "da-da." As soon as it makes these sounds *only to meet its needs*, it has most clearly learned some talk.

At this stage comes into the learning process a most important factor—imitation. The child will never learn the language of its parents by limiting itself to its own babblings. It has to change this babbling into an organized and conventionalized language. It must conform to the code of its parents; it must learn to speak their language. This it does by imitation, by listening and learning.

Its lessons come in a normal, helpful way when the parents or attendants consciously introduce it to various objects and speak their names. A child may call its rattle its "flub-blub;" first by random movement and later by finding that the name works. The parents then have two choices; either of adopting the same name, or of correcting the child and teaching it to say "rattle." If the parents take to calling the rattle a "flub-blub," the child will adopt the name, and will later have no end of difficulty in forgetting it and learning the right word. But if the parents will hold up the rattle when the baby wants it and say "rattle" withholding the rattle until the child wants it pretty keenly; and then if they will repeat this often enough refusing to give the rattle for "flub-blub" but giving it only for "rattle," then the child will learn the language of its parents.

All learning follows these steps: (1) random movement (trial and error), (2) chance success or penalty, (3) repetition with less randomness and a quicker success or escape, (4) recollection of how success was won or else imitation of another person who succeeds, (5) more repetition with gradual elimination of all useless movement (6) the ability to do the thing desired with no waste motion, that is, to do it at the first trial and without failure—volitional action, and (7) the ability to do it so surely and readily that it can be done even when attention is focussed on some other activity. This is automatic action, habit; and is the end of all education.

Once a thing is learned it must join the host of habitual actions that go on successfully while the mind is occupied at mastering something new. This is the rule for learning Speech; whether it is a matter of words, of the right pronunciation, of inflection, good use, pure tone, the right degree of loudness or weakness, putting words into sentences, or of choosing ideas for presentation to others the goal is to achieve automatic action, in body control, use of voice, command of language, and development and selection of ideas, purposes, and attitudes. To *re*learn, the pupil must be taught how to make the most of his opportunities for trial of the new and better mode, for getting criticism—from the teacher and from himself as to when he is succeeding and when he is failing—for being thrown among the best possible models for imitation, and for finally getting his new ways fixed into habits so automatic that they work while he is doing something else.

Allegiance to the law of learning leads then, to the following methods in speech training:

(1) Urging the student to increased endeavor to *try* something different; to get out of the old rut; to *attempt* hitherto untried ways and methods. Often enough we learn new ways by just working at it until we stumble upon the right way. All learning has something of this trial and error.

(2) Analysis and criticism; deciding whether or not the right thing has been done to accomplish the desired end. This implies the naming of all matters connected with good speaking, the use of somewhat technical language, learning the vocabulary of speech training.

(3) Repetition and correction; going over and over the new method until it is mastered and thoroughly understood, checked and guided by the examples to be had from others.

(4) Much practice, especially under conditions as near like as possible those the student is being trained for; reproducing as much as possible in the class room the conditions of public address, public reading, social conversation, formal trials and exhibitions.

(5) Acquiring such mastery of the whole speech-learning process that the student not only will correct his errors, but will know how to take himself in hand for all time in case he gets into error again.

(6) Making good speech second nature; automatic; habitual.

### *Influences Affecting Speech*

It was said above that the student of high school age knows how to speak already; he has already learned. What, then, has he learned, who have been his teachers, and how much more learning does he need? Also what must he be taught to forget, and what must he learn anew and differently?

These questions are answered by a review of the influences that affect his speech; his use of language, his use of ideas in speech, his use of the voice, and the degree of control over his body that his life has given him. There are five principal influences that have added each its effect upon his capacity for speaking or reading. They are: (1) Home, (2) Playground, (3) School, (4) Public Entertainments and Meetings, (5) Stress of Adolescence.

It will pay to consider each of these to assess its importance and influence. Also with these before him the teacher can the better know how to make diagnoses and prescribe remedies for the needs of his pupils.

(1) *The Home.* The earliest impressions are the most deep and lasting; what happens before the fifth birthday is one of the things the teacher would do well to know in correcting any kind of deficiency in his pupils. Without this knowledge one can do little but work in the dark. Obviously the teacher in the ordinary high school cannot go into the family history of every one of his pupils, but she can make some shrewd inferences. A wide-awake teacher who has heard

a boy talk and who knows what kind of neighborhood he comes from, knows quite a little about that boy's home life. If the teacher knows the family, he knows a good deal.

There is all the difference in the world between the speech of the high school lad whose parents have regarded every kind of speech eccentricity as "cute" and "dear" in his babyhood and have been at no pains whatever to set him right, and the lad who at home has been trained—not nagged—in an intelligent and sympathetic fashion. Where parents know what makes speech acceptable or else impossible, and where they are willing to take upon themselves the burden of teaching their children, the boys and girls arrive in high school with a minimum of defects in communicating orally with their fellow men.

One other consideration always shows in the high school age; if the family makes a practice of *reading aloud to each other,* the speech of the boy or the girl is likely to be noticeably superior to the speech of those who have never enjoyed such a privilege. The mere exercise of the voice apparatus in this venture is worth something; and the desire to read aloud and to be read to is almost always accompanied by a taste that seeks the better and is more or less intolerant of the worse.

So the more the teacher can find out about the home habits of her charges, the more help can she give them in better speech.

(2) *The Playground.* But everybody knows that the home is not the only influence in the child's life, nor always even the most influential. Many children bolt home influence and follow the crowd outside the home. Parents are often shocked at what their little dears bring in from the world outside. For this reason the suggestion made above is relevant, that the teacher will do well to know something about the neighborhood in which the children live. Nowadays children have a way of striking an average between home influence and the influence of habits of the other children with whom they play. The result in any given neighborhood is a levelling of standards and habits.

This levelling tendency is exaggerated on the school playground. There children get together from all kinds of homes. The dominant influence rules. Sad to say this influence is mostly in the direction of the rough voice, the loud shout, the shrill shriek, the use of slang, the jumbling of words together, even profanity and obscenity. It seems to be the price of democratic education—at least when allowed to run unchecked and unchallenged. The gang influence dominates, and in a gang of pre-adolescents the spirit of the crowd is distinctly hostile to the wishes and likes of parents and elders in general. A clearly-defined opposition to what the old folks like prevails in the tribe, whether on the school playground or in the vacant lot or in one of the neighborhood yards. Aggregated childhood is lawless, indifferent to the opinions of others, and rather proud of its own ability to invent and maintain its own aesthetic code. It takes delight in being different, and chafes at the necessity of conforming to the rules of others. As a consequence its speech almost inevitably breaks all the bounds of propriety set by its elders.

What happens concretely is that children of gentle voices find themselves incited to cultivate a loud rough shout every time they speak. Children with some sense of articulation have to learn to run everything together. Correct pronunciation becomes utterly taboo and is even laughed at. The worst sin a child can commit in many gangs is to be "affected," to try to be "nice." In most cases the child succumbs and does what the rest demand. As a consequence we find children on the school playground and around the neighborhood excelling in rough shouts, rasping chatter, perversion of pronunciation, monotony of pitch, the worst of slang, and any new impropriety the leaders of the gang can invent.

Many children in this way learn two kinds of speech; one for the home and one for the playground. In general they are amazingly skillful at keeping

the two separate. At the dinner table they keep within the law of the home and seldom make a "break;" but once outside the door they loose the whole stream that they save for Skinnay and Buck and Petey. Never do they use their "nice" talk outside the door. Later, upon entering the school room they try to store rough talk in a safe compartment and bring out the kind they know the teacher demands. We might even say with accuracy that most children have three brands of speech; for home, for playground, and for school room.

Discouraging as this all sounds to the conscientious teacher of speaking, still we can remember with consolation that this is more or less a transitory stage. It all happens before the savage begins to respond to civilizing influences. A little later, when adolescence sets in, your little wildman begins to learn that there are other people in the world and that it pays him to give some attention to their wishes. That is one of the chief results of puberty and adolescence, that it makes the naïve child naïve no longer; it wakes him up to the fact that if he is going to get along in life he must conform to the rules of society and must do some things for no other reason than that others want him to. So the wild-Indian stage, distressing as it seems, is not altogether hopeless. The child is at least getting his first lessons in conforming to the group, later he will find himself in a group that will not take delight in flaunting the teachings of time and the long experience of the race.

The nearest hope for saving children's speech at this stage is through sympathy on the part of teachers and parents. It hardly pays to try to convince the youngster that he is a little sinner and not fit to be known by his betters; it only drives him more certainly to the refuge of the gang. Understand him, hold in check his worst violence and his silliest inventions, teach him what is correct, and trust to a kind fate and a civilized society to make him *want* to use it. By showing him what is accepted and worth using, you can prepare him for his later conversion to civilization, to a respect for the past and for the wishes of those with whom he must live.

(3) *The School.* The reader of this will already know the place of the school in affecting the child's speaking and reading. With most children it is only in the school room that they ever get any intimation that there is a difference between speaking poorly and speaking well. Their lessons in reading are often the one anchor that holds them to good use and effective methods. The aim should always be to make the child believe that good speech is worth cultivating; not alone so that he can please his parents and elders, and surely not for the purpose of being able to show off and be an exhibition for the entertainment and pride of others; but for the sake of helping him enjoy his whole after life better. He can be made to see that it will make him better liked, better able to get people to understand him, better able to make his influence count in the world, and better able to earn his living.

Frankness compels the statement that the chief need in the school room today, in the way of speech training, is teachers who are surer of their ground. All too many teachers have no definite and sure information as to what makes speaking and reading good or poor. They are little better prepared to teach the subject than anybody one could tag on the street; not so well prepared sometimes as the parents of the children they are teaching. Many do not take this kind of training very seriously, being content to go through standardized motions, often the ones they learned in their childhood from a teacher who in her turn had no special preparation for the subject.

Particularly does this apply to teaching Speaking as against Reading. Many teachers think they have done their full duty if they teach their charges to get all the words from the printed page. They call this Reading, and like to feel that in doing this they are giving lessons in Speaking also. Seldom is it the case. Holding a book in the hand and reading from it is a fundamentally different performance from standing up and speaking one's own ideas and words.

There is good reason for saying that schools could with profit give more attention to Speaking and less to Reading. How often in after life are men and women called upon to hold a book in the hand, toe the mark, and read for the benefit of listeners? Seldom indeed, at least as compared with the times they have to look someone in the eye, choose their own ideas and words, and make their words and thoughts convincing. Not that there is any need of discounting Reading; it is most important. The present movement toward rapid silent reading is in the right direction, *provided it is linked with a corresponding addition to the training in Speaking one's own thoughts.* At least three things are needed: learning to read from the book, learning to read the book rapidly in silent reading, and learning to talk to others. In some places now the only one of these taught is reading from a book.

So there is much that the properly conducted school can do for the conversation and talk of its boys and girls. Speech training must be increased greatly in the years just coming, in response to the call of the people for training for their children in clear-cut Speaking, controlled conversation, and the ability to stand up in public to say what is on one's mind and heart.

In any case the school room and the teacher must be the one certain civilizing influence standing between the young savage and his life as a civilized being which he must eventually live.

(4) *Public Meetings and Entertainments.* Inasmuch as imitation always plays a part, and a large part, in Speech training, public speakers and entertainers by their public efforts do considerable teaching. It pays a learner to hear good speakers and to follow the example of good actors. Because children are so very impressionable, whenever they are exposed to the influence of effective public speakers and are given the example of nice use of language and pronunciation from the stage, they are found to learn considerable from these sources. The difference can be noted by the experienced teacher; those children who go out to public affairs are pretty sure to show the influence; while those who never go anywhere reveal all sorts of provincialisms and marks of insularity in their speaking ways.

Again when children belong to any organization that gives them part in public entertainments, they are helped to better speaking and reading. It assists most in furnishing an urge for better things. Such participation excites ambition, and offers prizes for getting out of the commonplace, for being better than mere ordinary. Teachers interested in better Speech will do well to encourage many forms of public entertainment and performance in young children; always remaining alert, or course, to be careful that it does not make them into little prigs desiring nothing better than to show off. Like all good things, it is capable of abuse and over-doing. But it helps by both furnishing an urge and by providing examples of what others can do.

Children who attend public meetings, political, civic, memorial, are highly likely to learn something about speaking they would never get otherwise. Let the wise teacher encourage such patronage of public meetings. Many a man who has done things worth while on the public platform and in public life, has got his real urge from hearing a public man discuss public issues. On such occasions one will hear much that is at fault in speaking to be sure; but this is more than offset by the ambitions stirred and the ideals raised, and can be corrected by the judicious teacher. Send the children out to hear the good speakers; in more ways than one it will make them into better citizens.

The theatre in its turn stands as the mainstay of good pronunciation and enunciation in our American civilization. Platform and pulpit are not always as careful as they should be, nor as enlightened as they might be; but the stage is always careful of its diction and its intonations. Even listening to phonograph records of stage masters is worth much; records can be had of some of the greatest artists of the day; and it is a dull boy or girl indeed who cannot learn

much of better speech from, not only listening to such records, but studying them. The stage must always lead in elegance. Study it.

Sad to say, there is a reverse side to this picture. More corruption in speech comes out of cheap vaudeville and mushy songs than from any other one source. The savage in the child all too often finds such performances more nearly adapted to his aesthetic level; the ordinary boy is much more amenable to the influence of the freshest slang from a monologist or the moony-spoony language of the latest song hit than he is to the influence of a great actor rendering Macbeth or Hamlet. In America right now our speech suffers much from a wierd orgy of vaudeville English and light opera "poetry;" not to mention our regression to the moods, language, vocal sounds, and antics of the African savage, fresh from the Congo Jungle. The cheap show is the greatest enemy to better speech we face, and teachers by habit fight it and try to find for it substitutes in the way of better examples and better ideals.

Even the picture-show affects speech. Its chief influence probably is in creating an air of smartness and flippancy. The written matter thrown upon the screen is all too often chosen solely for its snappiness and unconventionality. Coming as it does to the child in the midst of emotional experiences, it sinks deep into memory and habits. Of course, the answer to this is very simple; growing children should not be allowed to see picture shows promiscuously; there is great educative value in picture shows for children, but it can easily be turned into educating them into what they ought not to know. There is nothing particular that we can do about it, probably; but the alert teacher always knows just how to evaluate this influence and how best to counteract it. This is not easy at the present day; but one cannot withhold the hope that it will be better some day and that not far distant.

### *The Social Psychology of Training for Better Speech*

I. *Creating an Atmosphere of Ease.* One-half of your adolescents can give you fairly good speech if they are not embarrassed; they are the half from careful homes and from circles where good speech is hard and appreciated for its worth. Youths now tied up with complexes and fears halt and stumble, mumble, jerk, hold back their real thoughts, and massacre the language in trying to let go and hold back at the same time. If they have been favorably exposed in their younger days, these very ones can always be got to give forth good speech when their embarrassment is teased away and their boyhood or girlhood ease surreptitiously slipped in its place. It is a delightful, almost exciting game for a live teacher, trying to outwit the demons of embarrassment that so easily beset your charges. Kill the embarrassment and you revive the fainting spirits of better speech.

Akin to this is the making of Reading into a comfortable and more or less informal habit. Too often reading to others is a matter for a splurge, for making show. It ought to be a simple, natural sort of thing; and the alert teacher will find much enjoyment in putting this delightful and profitable talent in its rightful place. Here again the doctrine of cultivating ease will come to the teacher's rescue. Once take some of the starch out of reading good literature and more of its goodness will show through.

II. *Reducing Class-Room Tension and Fear.* All high school teaching must overcome fears. Even the blusterers and the flirts and the ones who raise their hands on all occasions are defending themselves under the press of a certain fear. In fact the most marked characteristic aspect of all public gatherings, school room or public meeting, is the presence of fears. If you doubt this, remember how carefully you look yourself over in a public place—figuratively speaking. Is your hair on straight, are your clothes clean, do you show polite manners, are your shoes presentable, are there any rents or rips visible, are all the pins concealed? —these are but samples of the scores of questions you run over before you consent to go out in public. And such questioning is always a fear reaction.

It is this questioning and its attendant embarrassment that keeps the adolescent continually on the verge of disruption, if not of collapse. He is pretty much upset even by himself, trying to get adjusted to this world that seems to be slipping from under his feet. Even among his pals he is uncertain of his ground; they even seem to be getting crotchety and different from what they used to be. Conceive, then, how distressing he finds the world when he is asked to be on his pretty behavior among people he isn't used to. What little balance he ever had now teeters, and it takes only a breath of too much notice or adverse criticism or insistence upon other people's notions of propriety, to leave him no pins at all on which to support himself. Girls have even harder times than boys; at least when they do have fears the fears are almost always deeper and more restrictive and binding. Beset as they are by social revolutions and disruptions, they are brought to the brink of disaster by being thrust into new and strange social experiences. The ordinary high school class room is a torture chamber to the twisted and convulsed bodies it contains, despite the outward show of bravery and *sang froid.* Such an attitude is for the most part a pure posture of defense. The real boy and girl is beset with worries and unsatisfied or unsatisfiable yearnings and repressions—fears.

This all points the way, then, toward making the whole of high school training an adventure in providing social conditions—those affecting the interrelation of pupils and teachers—that are as comfortable as possible. How much more necessary this is in all activities and studies that are themselves *essentially social,* as speech training, is easily apparent. A more social study cannot be imagined than the study of better speech; in which the pupil cannot by an evasion hide behind the numbers in the class or his willingness to let others do the reciting and the talking. To those who fear it in any degree, the very act of getting up to speak before others involves the utmost of frightfulness and agony. It can hardly by anyone ever be taken lukewarmly. In fact any speaking taken moderately by the speaker is never good speaking; to be effective it must come from a disturbed soul and an agitated body. So the most social activity of all the disturbing social activities of the school is that of learning and relearning to speak. To make the endeavor profitable at all, not a step must be omitted toward reducing the tension to a minimum and establishing the maximum of ease.

Akin to the need for reducing tension is the necessity for getting *exhibition* in its right place. One of the chief drawbacks to the better speech movement in America is that all too often in schools the only activity by way of work on better speech has been some kind of exhibition; prize contests, inter-school debates, entertainments, and plays. No discount of these eminently valuable diversions is implied in the least when we agree that, after all, the prime need in securing better speech is the exploiting of that phase of it which is not exhibitory, the kind of speech we have to use every day when we are not in the mood to show off or to ask for praise and notice. Life is mostly full of attempts to *get things done*; in the matter of speech it is occupied with trying to get people to understand our ideas and moods and purposes, to get other people to think our way, to decide issues as we would have them decided, to move people about as we would have them move, to send them on their way, invite them to come, reject their proposals, oppose their heresies—to master people who can either help our purposes or hinder our hopes. These are the sort of things for which we use speech a thousand times to the one when we ask people to notice how nicely we perform or to render a decision that our speech is better than those who in turn would like to find their speech adjudged better than ours.

So this article is written from the point of view that all real instruction in better speech must analyze the *elements of speech* and help the student to *do his own* piecing together. Otherwise he is not prepared to solve his problems of after life. Above all things else, speech training in our schools must do something more than prepare bright boys and girls for a specific contest or exhibition or play. It must really help educate them.

This means that we must analyze speech into its elements; thought, language, voice, and bodily control; that we must find out what thought is, what is involved in language, what the elements of voice are, and what is involved in bodily control. Most children, knowing as they do much about speech, are satisfactory in the way they control most of these elements; what is needed is to sift out the factors in which they are deficient, and then work on these. This is true education, and from it the learner has an opportunity to learn something he can use with profit the rest of his life and for his daily living.

The true place of the teacher is as critic; to tell when a thing is done well, when ill, and what to do to correct faults. As critic the teacher must accord alike praise and blame. He must know when a thing is done well, and must say so judiciously; then he must know when it is done ill, and then must be able to prescribe the remedy. Nothing else there is that he can do; the rest the pupil must take upon himself. Unless the pupil is willing to go through the trial and error process necessary to all education and learning, the teacher is helpless. The actual *doing* must come from the pupil. The teacher stands by, furnishes a skilled intelligence to decide what is good, what is bad, what is better, what is worse, makes the pupil feel encouraged by the good, makes clear what the good is and what the bad, and then points out what must be done to overcome the faults. This is as far as the teacher can possibly go. But to do this requires a trained intelligence; first, a knowledge of the elements of good speaking—a trained ear, a discriminating sense of value; second, the ability to tell what one knows to others; third, tact in presenting praise and blame; fourth, judgment and knowledge as to what to assign next, what to repeat, what to drop, what to attempt anew; fifth, the personal skill to furnish an example to the pupil of the particular speech virtue or defect under discussion. This summarizes the teacher's duties; not extensive, but exacting.

Questions raised by the report were discussed in papers presented by Miss Jennie Sturgeon of Rock Island and by Miss Winifred Littel of Hinsdale, both of whom advocated the reading to the class of modern poetry all through the four years. They thought this would furnish a helpful means of forming the pupil's literary taste. Miss Grace Chapman in her discussion of the question, "Are we giving sufficient attention to American classics?", argued that more attention ought to be given to them, on account of their value in developing a patriotic American citizenship. Miss Russel of Jacksonville, answering the question, "Are our objectives in literature practical?", declared that they are practical for they may be formulated as the development of the habit of intelligent and discriminating reading. The report was then discussed informally by Mr. Paul and by Mr. Hatfield.

At four-thirty the meeting adjourned.

E. C. Baldwin, *Secretary.*

## 8. GEOGRAPHY SECTION

### Morning Session

The Geography Section of the High School Conference met in Room 247 of the Natural History Building at nine o'clock with Miss Alyda C. Hanson, presiding. Miss Hanson gave a short address of welcome after which the first number of the program, *Human Geog-*

*raphy in the Illinois Ozarks* was presented by Mr. Clarence Bonnell of the Harrisburg Township High School. After his presentation of the subject, Mr. Bonnell showed a number of lantern slides which illustrated the features described.

## Human Geography in the Illinois Ozarks

**Clarence Bonnell, Harrisburg, Illinois**

The influence of geographical conditions upon the life of man is no where better illustrated than in the few counties through which the spur of the Ozarks of Missouri extends through Southern Illinois. This range of hills, sometimes locally called "mountains," is not well known and is less thoroughly understood. Of late years, the development of some of the industrial resources and the interest taken by *The Friends of Our Native Landscape* and *The Illinois Academy of Science* have drawn attention to the industrial resources and the picturesque beauty of this region.

The great state of Illinois, geologically speaking, is for the most part a level-lying land having a few somewhat hilly counties whose roughness is due to their elevation and subsequent erosion. Even the effects of erosion and of the extensive faulting and bending through a region extending southeast from LaSalle to the Wabash river, have been obliterated by the glacial deposits.

The horizontal strata of the southern end of Illinois, at some period antedating glacial times, were subjected to an up bending process which raised a founded ridge extending from Cape Girardeau, Missouri, on the west to near Shawneetown on the east. This ridge has a width of from fifteen to twenty-five miles and crosses parts of Union, Alexander, Pulaski, Johnson, Massac, Pope, Saline, Gallatin and Hardin counties. On its western half, the north slope is more gradual than on the south and the highest points are nearer the south edge. The reverse conditions are true of the eastern half. Bald Knob, the high point in Union county lies toward the south. Williams Hill, the highest point in Southern Illinois is 1065 feet high and lies in northern Pope county just across the line from Saline county not five miles from the low lands of the Saline river whose elevation is less than 360 feet.

In addition to the bending, numerous lines of extensive faulting occurred. Subsequent erosion of the ridge has reduced the original elevations by several hundred feet and has obliterated the differences of elevation due to slipping, except along the most prominent fault lines. The sky line is generally even and the general position of the strata as exposed along the slopes and cliffs of the interior valleys is horizontal or with but a slight dip. Local disturbances in the region of faults and folds some of which extend at right angles to the general trend of the ridge, are of frequent occurrence. A very extensive fault which crosses the Ohio just below Shawneetown extends westward into Saline county. Another displacement of something like twelve hundred feet crosses this first fault line at right angles, nearly, thus causing a very abrupt elevation or fault cliff which extends northward from the east and west line of faulting. Only the *lower* coal measures remain in the Ozark hills. Some thin seams of coal outcropping in the hill-sides supply fuel locally. The main coal measures have either been eroded since being elevated or did not occur, due to elevation before Upper Carboniferous time. All along the north slope, in Gallatin, Saline, and Williamson counties, the thick coal veins, the No. 5, 6, and 7 veins, come to the surface at their southern edge. Slope mines are frequent here. All these veins dip deeper as they extend north and at a distance of a few miles from the out crop are several hundred feet under the surface.

The Saline river rises in northern Johnson county and flows eastward rather sluggishly parallel to the ridge and near its edge. The tributaries from the south are short and precipitous. Those from the north are longer and flow through level country. The Ohio river is bordered by lowlands, especially on the Illinois side, from the mouth of the Wabash to the mouth of the Saline. Then, suddenly, it cuts right through the hills and exposes the rocks in a magnificent fashion. The trip by boat from Shawneetown to below Golconda is a panorama of beautiful bluffs and promontories. Good landing places for boats are infrequent. Below Golconda, the low lands of the lower Bay Creek are reached. Bay Creek flows for seven miles out of the steep hills of Pope county, drops into an ancient river valley and flows eastward to the Ohio in a sluggish course that was once up-stream. Near where the upper Bay flows into the low valley, Cache river, or one of its tributaries, rises in swamp lands—the Cache flows west. It and the Bay occupy the ancient river bed which lay south of and parallel to the Ozark ridge so close that its flood plain, something like a mile or more in width, lies snug under the huge cliffs which are a prominent feature all along the south edge of the hill range.

The old river bed over-flows when the Ohio river is high and even carries part of the water up Bay Creek and down the Cache in times of very great floods. Massac county, to the south, is a rich rolling farming region but slightly elevated.

The internal forces that reared the Ozarks from the plain were great and extensive. A volcanic neck appears in Hardin county, also the great Hicks dome and numerous folds. The many fault crevices in this county are often filled with fluor spar. At Rosiclaire, the greatest fluor spar mines in the world are located and the almost vertical crevice averaging six to eight feet wide has been mined down to a depth of 620 feet. There is no apparent diminishing of the size of the vein or the quality of the mineral. Lead and some silver are mined with the spar. Iron ore of excellent quality, limestone of high grade, and very valuable clays have been exposed by the up-heavel.

The decomposing rocks turned to a rich soil and in turn the hills became covered with a magnificent hard wood forest with cedars on many of the rocky slopes and hill tops. Then man came upon the scene. Natural conditions are so varied in the counties through which the Illinois Ozarks extend that man's activities have been correspondingly varied. How and why this has come about is the theme for which this lengthy description is the foundation.

The earliest human inhabitant of the region *could* have lived in a cave. The characteristic sand stone cliffs are of such a formation that weathering undercuts them so that many inhabitable cave-like shelters abound. I have slept rolled in a blanket in some of them. But I have never found any evidence of pre-historic habitation. The buffalo, cut on the cliff at Gum Springs near Ozark, suggests a man of cave dwelling instincts. Near Tunnel Hill in Johnson county, a supposedly pre-historic skeleton was dug from the dust in one of the sandstone cliff caves a few years ago and now reposes in the public library at Vienna. I have been at the scene of the digging and talked with the man who did the digging but I have not had an opportunity to view the remains or to verify the evidence of their pre-historic origin.

The old stone forts near Stonefort and Makanda, of massive stone walls on the semicircular boundary away from the vertical cliff in front, in each case suggest the adaptability of some of the pre-historic inhabitants to their surroundings whether they belonged to the stone age or not.

Prehistoric man had easy access to the region on both extremities and along the sides on account of the streams. Shelter and hiding places for game were abundant, and the great profusion of stone implements and weapons that were found on every quarter proves that the Indians found this a land of plenty. Other tribes left their remains even before the Indian. The Kincaid mounds in the Bay

bottoms have yielded pottery, images, and trinkets of rare quality, though they have been but little explored.

The rocks in the Saline River valley are underlaid with salt, hence the name. In the region of Equality above Shawneetown, salt springs abounded. These must have been a boon to the early man. In and about Shawneetown many fine specimens of pottery have been secured along with trinkets and weapons. Earthenware bowls holding twelve or fifteen gallons have been dug out whole. Numberless broken fragments were scattered all the way from Shawneetown to the salt wells. A portion of one indicates a vessel with the capacity of a modern hogshead. Shawneetown appears to be the site of two prehistoric villages, one built upon the other, each having its particular type of workman. Everything points to the fact that the location of Shawneetown at the foot of the hills, on the Ohio, and near the Saline river which was a ready-made highway to the salt springs was what lead early man to settle there just as the same conditions brought the white man and put Shawneetown on the map long before Chicago was thought of. The old pottery made in such profusion must have been used in connection with the evaporation and storing of the much prized salt. Ornaments brought from afar indicate prosperity in the early villages and the ability to trade and travel extensively because of a monopoly of a necessity of life. Perhaps they were profiteers, especially during war times.

The first white comers were hunters and trappers. The instinct to hunt remains with many of their descendants. Fox hunting is a sport still enjoyed; and a prosperous fox hunters' organization has an annual meeting, all of which is with out serious detriment to the foxes whose homes are inaccessible and who evidently enjoy the mighty chases.

Little is known about the early French occupation. The French left Ft. Massac at Metropolis, whose only strategic characteristic is its commanding view of the Ohio river for many miles in either direction. It is the first desirable location for such a defense below the confluence of the Cumberland and Tennessee rivers, with the Ohio. It consisted of a four-square embankment with a block house and a system of under ground drainage.

The English found the Ohio a natural highway to St. Louis and the west. The Kentucky pioneer who went on foot in his northern migrations had to cross the Ozark hills. Some of his kind built their huts on the hillsides and stayed.

Thus it happened that the Illinois Ozarks were settled by pure blood Americans of the Revolutionary type. Later, a number of German farmers from the German center in and about Cincinnati found their way into these same hills. The mining centers have a large number of recent immigrants from Europe but the rural communities away from the mines and factories are still peopled by the old stock. Traces of the early life are seen in such use of words as, "hit," for "it," and "use" for frequent, as: "The coons *use* along this creek." These evidences of American ancestry are fast dying out along with the use of the spinning wheel and log fireplace. The automobile now reaches almost every remote farm. It has been eight or ten years since I have found a spinning wheel in actual use.

All the really valuable timber has been cut over once or twice and most of the land is cleared. The level ridge tops make excellent farm lands which support some fine herds of cattle and good crops of wheat and corn. Smaller areas in the valleys are fertile. Many of the hillsides are denuded of trees and soil. Consequently, many school districts are unable to support a good school. Some neighborhoods have sufficient wealth to have good country schools out of which have gone young men and women in large numbers who have been very successful in life. Other districts cannot raise enough money to pay a forty dollar teacher for six months and so cannot claim their share of the state distributable fund except by levying beyond the legal limit or making private contributions.

Rosiclaire has the greatest spar mines in the world, yet these employ but a few hundred men who are largely farmers who resort to work on the farm during slack times at the mines. But Rosiclaire is on the river. Spar outcrops frequently in Hardin county but the transportation problem hinders development away from the river. Once iron ore was smelted at the old iron furnace near the center of Hardin county. The furnace still stands: It has been forty years since a fire was built in it. It is too remote to make iron manufacturing profitable.

Latitude, altitude, and soil conditions are such as to especially favor this region in fruit growing. The Illinois Central Railroad built through Union county years ago, not, however, because of the attractions of the Ozarks. It was simply a case of getting over an obstacle at the most convenient point. Out of this situation has grown an industry of great proportions, namely the fruit growing which centers about Anna, Cobden, and Alto Pass. The latitude sets the time of ripening fruit just after the Arkansas peaches are gone and the Michigan crop is not ready. Good roads and more railroads are the most needed influence for the more rapid development of such resources.

The influence of a barrier in retarding development is well illustrated in the case of Eagle Creek valley in southeastern Saline County, which is shut off on the north and west by ridges due to faulting, so that it is possible to travel for ten or twelve miles near the edge of this fertile spoon shaped valley and to find only one easily traveled entrance. Thick coal seams of most excellent quality underlie the center of this valley over an area of several square miles. They are undeveloped because of the difficulty of getting a railroad through the hills.

When the handicap of poor transportation is removed the Ozark hills will be covered with the finest of fruit and dairy farms. The roads are coming. Three of the state roads will go that way. New railroads are being projected and some were recently built. Another generation will see a transformed and regenerated land of prosperous farms, country homes, and pleasure resorts where now toil worn farmers on unprofitable hillsides eek out a monotonous livelihood.

Life on the low lying north side of the Saline river is in striking contrast to that just described. A dense hardwood forest originally covered the dry lands and there was cypress in the swamps. The soil was good. At first, the trees were cut and burned as there was no market for the lumber. Then a primitive farm industry arose. Trading centers sprang up. The rich lands were then no higher priced than the hill land and were less desirable. Later on, lumbering became profitable and the best trees were cut and most of the land cleared though some was allowed to grow again and has been cut over the second or third time. So, farming became the chief occupation. Land bought for almost nothing became very valuable. At the same time the hill lands back in the Ozarks became less valuable. So it has happened that much of the wealth that has maintained such prosperous centers as Marion and Harrisburg is possessed by the descendants of these settlers who bought bottom land instead of hill land. They cannot be credited with foresight. They were only lucky. Their hill dwelling brothers, perhaps, displayed better judgment in the beginning.

Then, about twenty years ago, it was discovered that one of the finest coal fields in the world lay under most of the land north of the Saline river. A new adjustment began. The children and grandchildren of the early land owners, if they had not squandered their inheritance, suddenly found themselves in possession of capital. Interest in farming and stock raising waned. Those who had money went into business in the towns and others found work in the mines. Thus an industrial life, wealth producing and productive of much that goes with wealth, came to hold the predominant place in the minds of men instead of prosaic farming. Better schools, more social advantages, a large foreign born population, the hum of industrial life,—all these things and many more were added so that life on the plain, so near the hills as to be in full view from their summits, became quite different industrially and financially from that back in the Ozarks. Here

are two distinct types of communities, the life of each interwoven with the other because of their proximity, yet they are different; as much different as are communities as a rule many miles apart. It is not a difference in people but of environment. Families from the hills move to towns in the coal fields and soon become a part of the life as it exists there. Sometimes they move back to the old home where the old life is taken up and carried on as it was before. This applies to the industrial life.

No such quick transition occurs as regards speech and customs. The families do not readily change peculiarities of speech or beliefs. Such superstitions as exist are carried along when the family moves. So it is that the people whether from the hills or the lower plain retain the teachings of their ancestors, near and remote. "Old wives' tales," household remedies, traditions of the early days;—all these do not die with the individual and are not forgotten by his descendants. They are a product of the environment which cannot be transplanted. They are after all the human thing which any environment gives to its inhabitants.

Mr. Bonnell was followed by Mr. W. G. Lathrop, Principal of the Johnson City Township High School, who spoke on *The Teaching of Commercial Geography in the High School.*

## The Teaching of Commercial Geography in the High School

### By W. G. Lathrop, Johnson City, Illinois

According to the Report of the High School Visitor for 1920-1921 there are 530 accredited high schools in Illinois. Of these 367 are reported as offering Commercial Geography. 334 of this number offer one-half unit, one offers one-third and one offers a unit and a half. Thirty-one offer a whole unit and of these thirteen are in Chicago.

It would be an interesting investigation to determine the exact standing of the subject in these schools; to find out how the work is received by the students, to what extent it is given purely as a commercial subject in the commercial course, and to ascertain the qualifications of the teachers handling the work, whether they are teaching commercial geography just because it is to be taught and they have been called upon to do the task, or whether they have had some real training in geography. I should have undertaken at least a partial investigation along these lines had time permitted after accepting a place upon this program.

I do not believe, excepting the acquisition of skill in the use of the mother tongue, that there is any subject offered in the curricula of our high schools which affords the practical knowledge and training for performing the various duties of everyday life in the most profitable and advantageous way which commercial geography does. It deals with subjects and problems with which every boy and girl must necessarily deal throughout their entire lives. We hear a great deal about making the work of our schools practical, about getting down to fundamentals. Here is a subject that touches the bedrock of fundamentals and practicality. When properly taught it is *highly* practical. It is essentially a study in every-day living, a treatment of the bread and butter side of life. Why should the boy and girl not know whence come the numerous products and articles which they handle, eat, and wear almost daily? Why should they not understand something of the preparation, manufacture, and marketing of these articles of commerce? Why should they not understand something of the mechanism of the transportation of these same things? They should know, for instance, which must reach our markets and homes in relatively a short time after starting on their journey and which may be sent by slower methods of transportation. Why not, instead of telling the boy of the vast express trains on our railroads, lead

him to see the necessity for such trains and show him that they are vital to his daily existence?

We hear and talk a great deal about the socialization of our program of study, and all this I fear without giving much consideration to the real needs of society. Are not the above aspects of our lives social? Is not society's greatest care how, whence, why and when it gets its living and shelter? No branch of study offered in our schools can better prepare the child for attacking the real economic problems of the present and future than the one under consideration in this paper.

Studies along these lines are not only practical but are cultural as well. It is the desire of most persons to become cultured. Is it not culture to understand the great mechanism whereby we exist? Perhaps commercial geography is not cultural in the same sense that Latin and Greek were once considered so but it is my belief that the most cultured person of today is the one who, through training and discipline is best prepared to appreciate, meet and solve the problems of living. It is a part of culture to understand how nations are dependent upon nations as individuals are dependent upon individuals for the necessities of life. Germany, Austria and to a less extent England and the United States need the vegetable oils of the tropical islands and tropical countries need the civilization, progress and up to date methods of the temperate zone peoples.

The question naturally arises, "What previous training should a child have in order advantageously to take up the study of commercial geography?" In answering this question I should say that this subject should not be given before the junior year and that the pupil should have had at least a high school course in physiography. But since both physiography and commercial geography are largely elective in our schools the teacher frequently finds those in the commercial geography class who have had no geography since the eighth grade. Such students find themselves decidedly at a loss when confronted by such terms as humid East, continental climate, horse latitude, relative humidity, talus slope, outwash plain, and cyclonic storms which are unavoidably mentioned frequently in commercial geography discussions. Without the proper background what wonder that some of them dislike the work and soon tire of it? However, those who dislike the work are few. My experience has been that in general students are fascinated by the work. Many of my students have come to me and told me that they enjoyed the work immensely. They have suggested that every person in school should be required to take the work. Many who regularly dispose of their textbooks when through with them, declared their intentions of keeping Smith's Commerce and Industry for future reference. Such statements show the value which the students attach to the work. Those who have had the previous training (physiography) get most from commercial geography and are most hearty in their praise of its value to them.

Among the numerous problems confronting the teacher in commercial geography is that of a suitable textbook. This like all subjects has no text that covers everything that the teacher desires to include in his course. This condition is only an opportunity for the teacher who is not a slave to textbooks. He should possess several different texts on the work and out of his devotion to his subject and his desire to place the work before the students he makes use of all texts and references. From the fullness of his knowledge he develops his own textbook an individual text which is more valuable than any ready-made text can possibly be. The result is a course which is elastic and which he can change at will as he adds to his store of subject matter. Commercial geography like any other branch of study should not be taught in the same way any two successive years. There should be change, growth, progress and development.

No textbook should be a mere encyclopedic aggregation of cold, bare, unrelated facts. I recall an incident in a commercial geography class in the Economics Department in this University. We had toiled tediously through the location of the numerous iron deposits of Austria and Germany with something

of the quantities in the various deposits. The instructor stopped in disgust saying, "Well I guess you are supposed to remember all this but"—and with a shake of his head and a smile which seemed to say, "I wouldn't attempt it." Left his statement unfinished.

The instructor was right. He, though not a geographer, did not appreciate this catalog style. Neither did the students. I believe teachers take the same view today. What we need are straightforward discussions. Facts must be stated but they can be set forth in a clear, vivid, human style at the same time bringing together the cause and effect so important in teaching this subject. The text to get at the bottom of all explanations should answer the question, "Why?" Better still it should arouse the "Why" in the minds of the students and lead them to seek and find the answers for themselves.

At least half the space of a textbook should be given to problems affecting the United States. An understanding of our own economic problems is essential to an understanding of our relations with foreign nations and should precede all such studies.

Prof. Hollister once said in an Education Class, "A textbook is at best only a crutch." This suggests the need not only of more than one text but of reference works. The teacher should draw freely upon the valuable literature put out either free or at a small cost by the various departments and bureaus of our government. Especially important are the reports on Mineral Resources by the U. S. Geological Survey, Yearbook of the Department of Agriculture and the Statistical Abstract of the United States. The publication of the Forest Service are full of the teachings of conservation of which every teacher should be an earnest advocate. State Coal Reports and reports of the State Geological Survey on coking of coals are valuable assets to individual and school libraries. The Journal of Geography, National Geographic Magazine, Bulletin of the Pan American Union, The Geographical Review and others should be in every reading room. The Literary Digest, The Outlook, Pathfinder and other such periodicals contain frequent articles of great interest and importance to commercial geography classes. Many industrial advertisers willingly send valuable pamphlets, pictures and samples which aid in eliminating the crutch difficulty. Mention of direct reference should not be neglected. All of J. Russell Smith's books, Miss Semple's books on Human Geography, Huntington and Cushing's Principles of Human Geography, Tree Crop Agriculture, Mill's International Geography and the International Encyclopdia should be accessible to every class, though many of us have to find it convenient to get along without several of these except as we furnish them ourselves.

With all this wealth of information at his command the live teacher will be able to discard all crutches and leap with both feet into the teaching of this valuable work. He soon finds that he has more material than he can possibly profitably use in the prescribed time. He is now confronted with the opposite problem, that of selecting and evaluating subject matter. What must he teach and what must he allow to go by without teaching or at best with mere mention? It is a question of what is of most worth. To select wisely the teacher should know the needs and inclinations of his class. Realizing that most of our boys and girls will not go to college we may be guided by Sneddin's aims of secondary education, namely, vocational efficiency, civic capacity, and personal culture. The scope of subject matter of commercial geography is sufficiently broad to include all these worthy aims. The same writer says, "A secondary school....should be a source of strength to the community. The school should constantly put back into the community the best of each generation as permanent residents if it is to justify its own existence and the taxation necessary for its maintenance." It is in the realm of preparation of a better, more intelligent citizenry that our subject finds much of its greatest value. If the subject matter is properly evaluated it must necessarily tend toward the making of more useful, intelligent and worthy citizens.

Care should always be exercised not to over emphasize early phases of the work and thus deprive the later portions of the time due them. Spencer's principle of selection of subject matter is to make a careful inventory of possible topics and establish clearly the *specific value* and purpose of each topic. Then by comparison arrange or grade the topics in the order of the greatest value. Having done this, he should plan to distribute the time and energy in such a way that when the course is completed the emphasis will have been distributed according to the *relative value* of the subject.

Perhaps a paper on teaching commercial geography would not be considered complete without some mention of methods of instruction. This subject is readily adaptable to any or all methods and perhaps all methods are desirable at different times. The question and answer method may be used with good effect when care is taken to ask questions that require care, thought, and accuracy in answering. This method is still more in place when the pupils themselves raise the questions. The teacher's function then is to direct the pupils in finding the answers to their questions and never in answering them directly for them.

The problem method finds its greatest importance in geography and related sciences. "Why do they not produce more corn and hay in the cotton belt?" "Why has the belt of corn production moved Northward in recent years?" "Why does the United States, with cotton as its most valuable export, import so much cotton?" "Why is so great transportation of coal unnecessary?" "Why did the United States Steel Corporation locate at Gary, Ind.?" These and hundreds of other similar problems suggest themselves to the teacher of geography.

Branon in his "Teaching of Geography" defines the project as, "A unit of activity with a worthwhile objective." Perhaps not all geography can be taught by the project method. I do not believe it profitable to try to do so. The method is good when worked properly. It fails when the teacher feels that the project is something for the students to work out and sits idly down as soon as he has stated the project. "Para Rubber versus Plantation Rubber," may form the subject of a valuable project with the possibilities of rubber production in the United States as an interesting problem. The cotton industry, lumber, coal, improvement of grain production may form the bases of other projects.

Field or observation trips are of great value in industrial centers where students may see a great deal without having to travel extensively. Most of us do not have the opportunity to enter extensively into this phase of the work. However, we may assign subjects for special investigation and report. Perhaps some of the girls are interested in the manufacture of artificial silk. Some of the boys will be sufficiently interested in the manufacture of hats to send to the John B. Stetson Company for a booklet telling just how a Stetson is made. This is not field work but may be offered as a substitute at the option of the teacher.

Mr. F. W. Cox of the University spoke upon the desirability of undertaking some definite work and carrying it through according to the manner established by the Conference.

Mr. Guy Buzzard of the Northern Illinois State Teachers' College at De Kalb spoke upon the National Council of Geography Teachers.

A short business meeting was held just before adjournment at which Principal W. G. Lathrop of the Johnson City Township High School was selected as a member of the committee, in place of Mr. W. E. Andrews whose time had expired. It was also voted that the section attend in a body the afternoon session of the Commercial Section to hear the discussion of the first topic, *Some Visualizations of*

*Commercial Geography,* by Mr. A. L. Nichols of the Austin High School, Chicago, after which the afternoon program be taken up as printed.

### Afternoon Session

### Miss Alyda C. Hanson, Presiding

The Section met at two o'clock in Room 247 Natural History Building. Miss Anna Weller of the Eastern Illinois State Teachers' College spoke upon the topic **Geography in the Reconstructed High School.** Following is an abstract of her paper:

My duty this afternoon, as I understand it, is to put before you the High School Curriculum in geography, as it has previously been worked out by committees from this division of the conference, and open up for discussion the idea of a reconstructed curriculum which may be better adapted to the needs of High School students.

Several years ago a committee of the whole High School Conference presented a report for the guidance of the different divisions in curriculum reconstruction. This was presented to this division last year for application to our part of the work, and we should have the main objectives, as then stated, clearly before us in undertaking this discussion.

The statements I now make then are taken, though not verbatim, from the general committee report.

In the past the attainment of knowledge was the chief aim of education, but knowledge is a means to an end, not an end in itself.

Education should impart not knowledge alone but appreciation, habits, and skill.

Education in the High School leads through the various activities and subjects of instruction to four objectives, i.e., health, wealth, association, and beauty, which in their turn lead the student to be a happy and efficient worker, (Economic life), a happy and efficient citizen, (Political life), a happy and efficient member of society, (Social life).

In reviewing the courses of study as already worked out in this division then, let us keep in mind this question, "Do the appreciation, knowledge, habits, and skill attained through these courses help toward any or all of these things—health, wealth, association, and beauty, and through them to a happy and efficient economic, political, and social life?"

In the average high school throughout the state where pupils take geography at all, there is offered ½ year of physical and ½ year of commercial geography. The only outline I have been able to find for commercial geography, which the High School Conference has considered, was presented in the commercial section in 1915. The aims given for the course are:

1. To develop a realization of the principles and causes which affect the location of industries.

2. To furnish information concerning the location and relative importance of the principal industries.

3. To make the student familiar with the various sources of commercial information.

In the geography section meeting of 1913 a committee presented a syllabus for 36 weeks work in Physical Geography covering the following topics:

Earth relations, Mathematical Geography, 3 weeks.

- The sun
- The planets
- The earth

The atmosphere, 13 weeks.

- Nature and functions
- Temperature and distribution
- Moisture
- Pressure and winds
- Weather
- Climate

The land, 18 weeks.

- Earth materials
- Wind work
- Weathering
- Ground water
- Running water
- Glaciers
- Volcanoes
- Movements of the earth's crust
- Relief features

The ocean, 2 weeks.

Under each topic are its sub-heads and parallel with it suggestions for field and laboratory work and a bibliography.

In the introduction to the report the following statement is made. "This syllabus is in no sense a manual to be followed rigorously. It is intended to serve as a helpful and suggestive guide—at the same time leaving the teacher free to expand or abbreviate as circumstances may dictate." Also this, "The bearing of physiography upon the life of man should be given the prominence which it deserves, and should be intimately woven in with each topic as it is presented—not segregated at the end either of the course or of the major topics considered."

To what extent this syllabus was placed in the hands of High School teachers I do not know, but in the eight years since it was made there has undoubtedly been a decrease in the number of High Schools giving physical geography and an increase in the teaching of general science, and with the exception of the larger high schools the problem of the lack of training of the physical geography teachers is still unsolved, so I doubt if we have made much headway toward giving geography the place it deserves in the curriculum.

In 1917 another committee of this division, which had been appointed previously, gave a report on a second year of geography for the high school. This committee believed that the human side of geography had not been given prominence enough so this course was called "Human Geography," and has for a general outline the following points:

I. Climatic regions of the earth and their relation to man.
II. Topographical types and their relation to man.
III. Coastline types and their relation to man.
IV. Geography of the United States—an application and summary of parts I, II, and III.

To quote from that report, "Among the aims in mind in working out the course were these:

1. The pupils in high school should have such a knowledge of the countries of the world and their relations to each other as will aid in other studies and make intelligent readers and conversationalists.

2. They should be able to understand the geographic causes back of economic conditions and political events.

3. They should learn to look upon foreign countries not as strange places, inhabited by strange people, but as places inhabited by people influenced much as are we by the natural conditions under which they live, so that if we were living in a foreign country we would be much as they are, barring only effects of racial characteristics."

Since the war there is more need than ever that all the people of the world shall understand the geographic principles which underlie the vital problems confronting us. More and more do we need to understand the peoples of the world and the influences which more or less determine their economic and political activities and, I take it, that it is in response to this fact that we notice that a great number of textbooks are being brought out entitled, "Human Geography."

May I now put before you for discussion the following questions:

1. Does the curriculum as now outlined give such knowledge, appreciation, habits and skill as help toward happiness and efficiency in economic, political, and social life?

2. In what special points is it lacking?

3. How should this lack be remedied?

The following paper, prepared by Professor W. O. Blanchard, of the University, was not given owing to lack of time, but is presented here because of its apparent usefulness.

## The Use of Topographic Maps in High School Physiography Classes

Physiography, concerned as it is with the earth's changing surface, must necessarily deal with a great variety of land forms. The number of the latter which the student may observe at first hand is relatively small. To most of the boys and girls of high school age living on the prairies of Illinois, plateaus, mountains, volcanoes, glaciers and canyons are features entirely foreign to their experience. If they are to form any sort of adequate visual image of such features it must be through secondary sources—descriptions by teacher or text, pictures, maps, models and the like. At best the image is imperfect and every devise available should be utilized in correcting imperfect notions of these forms. Otherwise it will be the old story of the blind men and the elephant. For small features—a waterfall, a bit of glacier or coast or mountain peak—the photograph, reproduced as a text illustration or better still in the stereopticon, serves admirably. For larger areas or for detailed quantitative study of smaller sections maps must be used. Maps are diagrams, not pictures, and like other diagrams employ more or less arbitrary symbols to represent the particular features desired.

The problem of representing the relief of the land on a map has been met in a number of ways. All, however, employ some symbol—shading, hachure, color or contour—which is modified to show increase of altitude. The one most used is some form of contour map. The U. S. Government, together with the individual states, has spent millions and will spend many more in mapping the country with detailed contour sheets. Many foreign countries are using the same scheme. Our

army engineers found little difficulty in using the French and Belgian maps, for they were essentially like those used here. It is with respect to their use or rather lack of use, by high school students in physiography courses that I feel we are neglecting a great opportunity. Just as their value is becoming more and more recognized as aids in the construction of highways, drainage systems, railroads, and even to the type of agriculture best suited to lands of varying relief, so in our schools familiarity with these maps opens up a great resource. They are cheap and accurate and already have been made over such large areas of the earth as to include examples of almost every type of topography desired.

Of the 530 accredited high schools in Illinois 415 or 78% teach physiography. Of these the great majority, in fact all but 40, offer the work as a semester study and may or may not provide a laboratory period.[1]

With the exception of a few of the larger schools topographic sheets or quadrangles are little used.[2] Of course many of the larger physical wall maps are really contour maps where the contour interval is large and usually colored. What I have in mind is the use of the individual sheets by students in studying detailed surface features.

The non-use of topographic sheets of the U. S. G. S. is due to one of two causes. Either teachers are ignorant of their existence or they do not believe their study worth while. Information for the first group may be found in almost any of the standard laboratory manuals in physiography. A few minutes spent in studying the legend on the back of the maps which explain the use of symbols, followed by as many hours in their interpretation will remedy the difficulty.

With those who believe that the time and energy needed to accustom students to the use of the map are not sufficiently repaid by their later use, I wish to take issue. The real difficulty comes in the student's learning to interpret the contour map. That is the crux of the whole problem. However, that may be solved with little difficulty if it is approached by easy stages.

There are a number of methods of teaching physiographic maps which are familiar to many of you. However, it has proven such a bugbear to inexperienced teachers that I am tempted to use the next few minutes in illustrating one way. It is not new, but it has stood the test of time and is, I believe, as simple as any.

*Demonstration follows.*

Make the exercise a laboratory problem, having the class work in groups of 2 to 4 pupils each. Using moist sand, moulding clay, or putty model a hill with one slope uniform and gentle, another uniform and steep. Get several one-inch blocks or books of that thickness and use a splinter of wood to mark contours. Using the baseboard or table top as sea level, place the marker on a block so as to project far enough to reach the slope. Move the block and marker around the hill, adjusting it so as to make a line or contour. Repeat this operation, placing two blocks beneath the marker, and so by adding blocks one at a time, a series of contours will be drawn. Then if the student will look down onto the model from above, he can sketch the contours. An oral discussion following the exercise may bring out such points as

1. The meaning of a contour—a line joining points of uniform elevation.

2. The idea of a contour interval—the *thickness* of the slices if the hill were cut horizontally at each contour level, in this case one inch.

3. The variation in spacing of contours depending upon the steepness of the slope.

Introduce a valley and note that the contours bend into the valley where they cross, and outward around the spurs or ridges.

---

[1]Report of the High School Visitor, Univ. of Ill. for 1920-21.
[2]From statement made by Prof. H. A. Hollister, High School Visitor.

Other variations may follow until the student sees in the contour map the land form it represents. Post some pictures of simple land forms, as a volcanic cone, a butte, a drumlin, and have the students make contour maps of them. Mimeograph some sheets with a drawing of a stream and with the elevations of various points marked. Using this data the student can sketch in the contours.

After such exercises have given him the fundamental principles underlying the construction of topographic maps, he is ready to make use of sheets illustrating earth features with which he is not familiar. The "Set of 25" topographic sheets sold by the United States Geological Survey will be found very useful in illustrating many physiographic features. This set has the advantage of having a written text describing them available.[1] Sheets should be chosen which are comparatively simple and where the features desired stand out rather strikingly, unobscured by other things.

I am passing out to you two suggestive exercises of selected questions upon two such sheets. The one is typical of the lower Mississippi flood plain and is used to illustrate the natural levee. The other shows on a large scale the alluvial fan formation in Southern California. These questions are merely suggestive. I cannot help feeling that after such exercises have been worked out the student will not think of a natural levee as "like a steep railway embankment" or an alluvial fan as "like a straw stack."

### Cucamonga Sheet—A Study of Stream Deposits

1. Locate this region on a map of the United States.

2. What two types of topography are shown on this map? Compare them in ruggedness and describe each as plain, plateau or mountainous.

3. Find Cucamonga Canyon near the middle of the sheet. Trace it to its head and notice the elevation. What is the elevation where it reaches the base of the mountains? What is the total descent between these two points? In about how many miles did this fall take place? What is the average fall per mile? Following the same plan find the fall of the stream channel after leaving the mountains and compare with the first result. What effect does such a change of grade have upon the velocity of the stream? Upon the sediment load carried?

4. Notice the direction taken by the contours as they cross the open ends of the canyons. Is the plains area in the form of a ridge or depression at these places? (To decide this imagine yourself walking along any of the east-west roads running across the canyon mouths, such as the San Bernardino Base Line road where it passes south of San Antonio Canyon.)

5. How may this peculiar feature be explained? Name?

6. What is the character of the soil in the stream channel? (See legend on reverse side of map.)

7. What becomes of the streams after leaving the canyon? Do they ever reappear?

8. Make a cross-section from Chino straight north to the mountains.

9. Account for the braided pattern of the stream channel after entering the plain. What effect does such diversion of the main stream have upon the sediment it can carry?

10. Compare the number of houses and villages with northern ⅓ of the sheet with the remainder. Why are not the cities located close to the mouths of the canyons?

11. Judging by the character and number of streams is the rainfall here light or heavy? What use may be made of the streams? What fruits are raised in large quantities in this region?

---

[1]Write the U. S. G. S. for "Topographic Maps for Use in Schools," consisting of six pages of descriptive matter on these maps by W. M. Davis.

DONALDSONVILLE SHEET—A TYPICAL SECTION OF THE LOWER MISSISSIPPI FLOOD PLAIN

1. Locate this region on your map.

2. Describe the general drainage conditions.

3. Draw a cross-section on a line from the first "R" of the word "railroad" on the south side of the river, between the letters "r" and "i" in the word "river," to the swamp on the north side of the river. Let one section of your cross-section paper represent 20 feet in vertical scale. Assume the river to be 60 feet deep and dot in the water surface and bottom of the channel.

4. As shown by your cross-section where is the highest part of the flood plain? What name is given this feature? Cause of its development? Average width?

5. What are the straight blue lines running from near the river's edge back to the swamp? Note and explain the direction of the small streams on either side of the main river.

6. Where are most of the people living? Account for the distribution of the roads.

7. For cities, or parts of cities situated on the flood plain back of the natural levee what problems of sewage disposal and health would arise as a result of their location? What danger is such a location subject to? The Nita Crevasse shows where a break occurred and was later repaired. Where would artificial levees be placed to protect against floods?

The question of the Council of Geography Teachers was again brought up for discussion. It was discussed by Dr. Blanchard of the University, Mr. Smith of Chicago, Miss Ashton of the University and others.

The meeting adjourned.

## 9. HIGH SCHOOL LIBRARY SECTION

A meeting of high school librarians was held November 18th at ten o'clock in the Education Building with Mr. P. L. Windsor, librarian, University of Illinois, presiding. After a statement by the chairman of the purpose and need of a High School Librarians' Section in the High School Conference and a general discussion of the matter, a motion that such a section be formed and that a petition to that effect be sent to Mr. Hollister was made and carried. Mr. Windsor appointed Miss Mary King, New Trier Township High School, Kenilworth, and Miss Ruth Sankee, University of Illinois High School, as a committee for the selecting of a conference committee for the ensuing year.

As no definite program had been arranged, the remainder of the meeting was given over to an informal discussion of high school library problems, most of which centered upon problems of book selection and the need of a new list of books for Illinois high schools. Miss Anna M. Boyd, instructor in the Library School gave a report of the Illinois Library Association High School Section meeting of October 19, 1921.

At the close of the meeting the committee selected the following as making up the Conference Committee of the High School Librarians' Section:

Miss Hannah Logasa, University of Chicago High School, chairman.

Miss Ruth Sankee, University of Illinois High School, secretary.

Miss Wilma Ponder, Proviso Township High School, Maywood.

Miss Rachel Baldwin, Deerfield Shields High School, Highland Park.

Miss Clara Hadley, Decatur High School.

RUTH SANKEE,
*Secretary pro tem.*

We are appending to this report certain lists of books, maps, and other useful publications compiled by members of the University Library Staff.

## Biographies of Interest to High School Students which May Also Provide Vocational Incentives

### Compiled in the University of Illinois Library School, 1921

*Addams.* Twenty years at Hull House, by Jane Addams, Macmillan. 1912.
Social service.

*Alcott.* Louisa May Alcott, dreamer and worker, by Belle Moses. Appleton. 1909.
Author.

*Antin.* The promised land, by Mary Antin. Houghton. 1912.
Author. Social service.

**Audubon.* Audubon the naturalist: a history of his life and times, by F. H. Herrick. Appleton. 1917.
Ornithologist.

**Baldwin.* An American Citizen; William Henry Baldwin, Jr., by J. G. Brooks. Houghton. 1910.
Railroad official. Social reformer.

*Barrows.* A sunny life; the biography of S. J. Barrows, by Mrs. S. J. Barrows. Little. 1913.

*Barton.* Life of Clara Barton, by P. H. Epler. Macmillan. 1915.
Nurse. Red Cross Worker.

*Bernhardt.* Memories of my life, by Sarah Bernhardt. Appleton. 1907.
Actress.

**Billings.* John Shaw Billings, A memoir, by J. S. Garrison. Putnam. 1915.
Physician. Librarian.

**Bispham.* A Quaker singer's recollection, by David Bispham. Macmillan. 1919.
Musician.

*Bok.* Americanization of Edward Bok; the autobiography of a Dutch boy fifty years after. Scribner. 1920.
Editor.

**Bonheur.* Reminiscences of Rosa Bonheur, by Theodore Stanton. Appleton. 1910.
Painter.

**Booth.* Edwin Booth, recollections by his daughter, Edwina Booth Grossman, and letters to her and his friends. Century. 1894.
Actor.

**Brooks.* Life and letters of Phillips Brooks, by A. V. G. Allen. Dutton. 1900.
Preacher.

*Burbank.* Luther Burbank, his life and work, by H. S. Williams. Hearst's International Library. 1915.
Scientist.

**Burge.* Adventures of a civil engineer: fifty years on five continents, by C. O. Burge. Rivers. 1909.
Engineer.

*Carnegie.* Autobiography of Andrew Carnegie. Houghton. 1920.
Manufacturer of steel. Philanthropist.

*Clark.* My fifty years in the navy, by C. E. Clark. Little. 1917.
Naval officer.

*Conwell.* Acres of diamonds, by Russell Herman Conwell. Harper. 1915. (Contains an account of his life by Robert Shackleton.)
Lecturer, preacher, author, soldier, newspaper correspondent, etc.

**Cooke.* Jay Cooke, financier of the Civil War, by E. P. Oberholtzer. Jacobs. 1907.
Railroad builder.

**Cooper.* Peter Cooper, by R. W. Raymond. Houghton. 1901.
Inventor.

**Cullom.* Fifty years of public service; personal recollections of Shelby M. Cullom. Ed. 2. McClurg. 1911.
Lawyer. Senator.

**Cutbrush.* James Cutbrush, an American Chemist, 1788-1823, by E. F. Smith. Lippincott. 1919.
Chemist.

**Daly.* Life of Augustin Daly, by J. F. Daly. Macmillan. 1917.
Theatrical Manager.

**Dalton.* John Dalton and the rise of modern chemistry, (Century Science ser.), by Sir H. E. Roscoe. Macmillan. 1895.

**Davis.* Life and times of Henry Gassaway Davis, 1823-1916, by C. M. Pepper. Century. 1920.
Railroad brakeman and railroad builder. Senator.

**Davis.* Adventures and letters of Richard Harding Davis, edited by C. B. Davis. 2v. Scribner. 1917.
Newspaper reporter, Author.

**Dodd.* Walter James Dodd, by John Macey. Houghton. 1918.
Ex-ray expert.

**Douglas.* Frederick Douglas, by C. W. Chesnutt. (Beacon Biographies.) Small. 1899.
Negro orator. Statesman.

*Eads.* James B. Eads, by Louis How. (Riverside biographical series.) Houghton. 1900.
Engineer, Bridge builder.

*Edison.* Thomas Alva Edison: sixty years of an inventor's life, by F. A. Jones. Crowell. 1908.
Inventor.

**Ericsson.* Life of John Ericsson, by W. C. Church. Scribner. 1911.
Engineer. Builder of iron-clad "Monitor."

*Fels.* Joseph Fels: his life work, by Mrs. Mary Fels. Huebsch. 1916.
Manufacturer of Fels Naptha soap. Single tax reformer.

*Ford.* Henry Ford's own story, by R. W. Lane. For sale by Baker & Taylor. N. Y. 1917.
Automobile manufacturer.

*Franklin.* Ben Franklin, printer, by J. C. Oswald. Doubleday. 1917.
Printer.

**Fritz.* Autobiography of John Fritz. Wiley. 1912.
Engineer. Steel Manufacturer.

**Frohman.* Charles Frohman, Manager and man, by J. F. Marcosson and Daniel Frohman. Harper. 1911.
Theatrical Manager.

**Galton.* Memoirs of my life, by Francis Galton. Dutton. 1909.
Scientist and explorer.

*Garland.* Son of the middle border, by Hamlin Garland. Macmillan. 1917.
Author.

*Gilbert.* Stage reminiscences of Mrs. Gilbert. Edited by C. M. Martin. Scribner. 1901.
Actress.

**Gladden.* Recollections of Washington Gladden. Houghton. 1909.
Preacher.

*Greenaway.* Kate Greenaway, by M. H. Spielmann and G. S. Layard. Black (London). 1905.
Illustrator.

**Hill.* James Jerome Hill, by J. G. Pyle. Doubleday. 1917.
Railroad builder.

**Inness.* Life, Art and letters of George Inness, by George Inness, Jr. Century. 1917.
Painter.

*Jefferson.* Autobiography of Joseph Jefferson. Century. 1890.
Actor.

*Judson.* Ann of Ava (Mrs. Judson), by E. D. Hubbard. Missionary Educ. Movement of U. S. and Canada. 1913.
Missionary.

*Kellogg.* Memoirs of an American prima donna, by Clara Louise Kellogg. Putnam. 1913.
Singer.

**Kelvin.* Lord Kelvin, by John Munro. (Bijou Biographies.) Drane. London. 1902.
Scientist.

*Lincoln.* Lincoln the lawyer, by F. T. Hill. Century. 1905.
Lawyer.

*McClure.* My autobiography, by S. S. McClure. Stokes. 1914.
Editor.

*McCormick.* Cyrus Hall McCormick, his life and work, by H. N. Casson. McClurg. 1909.
Manufacturer of farm machinery.

**Morgan.* Life story of J. Pierpont Morgan, by Carl Horey Sturgis. 1911.
Banker.

**Morris.* William Morris, poet, craftsman, socialist, by E. L. Cary. Putnam. 1902.
Printer. Artist.

*Moton.* Finding a way out, an autobiography, by Robert Moton. Doubleday. 1920.
Negro teacher.

*Muir.* Story of my boyhood and youth, by John Muir. Houghton. 1913.
Geologist.

*Nevin.* Life of Ethelbert Nevin from his letters and his wife's memories, by Vance Thompson. Boston Music Co. 1913.
Composer of Music.

**Newcomb.* Reminiscences of an astronomer, by Simon Newcomb. Houghton. 1903.
Astronomer.

*Nightingale.* Florence Nightingale, the Angel of Crimea, by L. E. Richards. Appleton. 1909.
Nurse.

*Palmer.* Life of Alice Freeman Palmer, by G. H. Palmer. Houghton. 1908.
Teacher.

*Parker.* An American idyll: the life of Carleton Parker, by Cornelia H. Parker. Atlantic Monthly Press. 1919.
Labor exponent. Teacher.

**Pasteur.* Life of Pasteur, by René Vallery-Radot. Doubleday. 1902. (Popular edition.)
Scientist.

*Patti.* Reign of Patti, by Herman Klein. Century. 1921.
Opera Singer.

*Pershing.* Story of General Pershing, by E. T. Tomlinson. Appleton. 1919.
Soldier.

*Pumpelly.* Travels and adventures of Raphael Pumpelly condensed from his reminiscences, by O. S. Rice. 1920.
Engineer.

*Richards.* Life of Ellen Hunt Richards, by Caroline L. Hunt. Whitcomb. 1912.
Chemist. Teacher.

*Riis.* Making of an American, by Jacob August Riis. Macmillan. 1916.
Reporter, reformer, philanthropist.

*Riley.* Youth of James Whitcomb Riley, by Marcus Dickey. Bobbs. 1919.
Poet.

**Roosevelt.* Autobiography of Theodore Roosevelt. Appleton. 1904.
Statesman.

**Saint Gaudens.* Reminiscences of Augustus Saint Gaudens, edited by Homer Saint Gaudens. 2v. Century. 1913.
Sculptor.

*Slessor.* Mary Slessor of Calabar: pioneer missionary, by W. P. Livingstone. Doran. 1917.
Missionary.

*Stanley.* Autobiography of Henry Morton Stanley. Houghton. 1909.
Journalist.

**Strathcona.* Life of Lord Strathcona and Mount Royal, 2v., by Beekles Willson. Houghton. 1915.
Fur-trader, Canadian empire builder.

**Thayer.* Astir, a publisher's life-story, by John Adams Thayer. Small. 1910.
Publisher.

**Thomas.* Memoirs of Theodore Thomas, by Mrs. R. F. Thomas. Moffat. 1911.
Orchestra Conductor.

**Trudeau.* An autobiography of E. L. Trudeau. Doubleday. 1915.
Physician.

*Washington.* Up from slavery: an autobiography of Booker T. Washington. Doubleday. 1901.
Negro teacher. Social service.

*Washington.* George Washington, farmer, by P. L. Haworth. Bobbs. 1915.
Farmer.

**Watterson.* "Marse Henry," an autobiography of Henry Watterson. 2v. Doran. 1919.
Newspaper editor.

*Walther.* Pilgrimage with a milliner's needle, by Anna Hilda Louise Walther. Stokes. 1917.
Milliner.

**Westinghouse.* George Westinghouse, his life and achievements, by F. E. Leupp. Little. 1918.
Inventor.

**Young.* Ella Flagg Young and a half-century of the Chicago Public Schools, by J. J. McManus. McClurg. 1916.

*Some of these biographies will not be read through by High School Students because of their length and difficult subject matter, but are excellent books for students to "dip into" in leisure moments. Such books are indicated by a star.

COLLECTIVE BIOGRAPHY

Gilbert, Ariadne.
More than Conquerors. Century. 1914.
Musicians, painters, poets, statesmen, etc.

Parkman, M. R.
Fighters for peace. Century. 1919.
Soldiers and Statesmen.

Parkman, M. R.
Heroes of today. Century. 1917.
Scientists, explorers, physicians, etc.

Parkman, M. R.
Heroines of service. Century. 1917.
Madam Curie, Alice C. Fletcher, Mary Lyon, etc.

## U. S. Government Publications for the High School Library

### A Selected List Compiled by Anne M. Boyd University of Illinois Library School, 1921

"The government of the United States is the greatest of all modern publishers. It employs thousands of scientists, who are engaged the year round in making researches and investigations in all branches of agriculture and household economy, in geology, in mining, in electricity, in chemistry, in astronomy, in engineering, in aviation, in preventive medicine, in forestry, in irrigation, in shipping and railroad problems, in trade and manufactures. The art of war as well as those of peace are also actively cultivated. The greatest art of all, that of maintaining and spreading free government, is strenuously carried on by President, Cabinet, Senators, Representatives, Army and Navy.

The results of all these activities . . . are constantly reduced to print and poured out in an incessant flood from the Government Printing office at Washington, the largest plant in the world." (From Price List of Supt. of Doc.)

The following list has been selected to illustrate the types of government publications that may be used in the High School library to supplement, at small cost, its reference collection. It is not intended to be a complete list of all the interesting and valuable publications useful in the High School but suggestive merely of what is available. They have been roughly classified to indicate in what high school subject they might be used to advantage. The title of the pub-

lication is given, in parenthesis is the name of the department, bureau, or office issuing it, the name and number of the series to which it belongs, and the price for which is may be purchased from the Superintendent of Public Documents.

The greater number of these publications may be purchased from the Superintendent of Documents, Government Printing Office, Washington, D. C. Some of them may be had free from the offices issuing them. Your Congressman is frequently able to obtain certain ones for you free of cost.

### Aids in Selecting Government Publications for the High School Library

Price Lists of government publications. Supt. of Documents..... free
These consist of about 45 lists of the publications which the Superintendent has for sale, each list containing documents on a particular subject, as Birds, Commerce, History and Biography, Health, History, Indians, Insects, Chemistry, Education, Political Science, etc. A recent set of these should be in the High School accessible to every high school teacher.

Teaching material in government publications. (Education Bulletin 1913, No. 47) . . .....$ .10

Government publications of interest to Home Economics teachers and students. 1918. (Education Bureau Home Economics circular No. 5).... free

Index to Farmer's Bulletins, No. 1-1000. (Divison of Publications, Agriculture Dept.) . . ..... .80

Federal executive departments as sources of information. (Bureau of Education Bul. 1919. No. 74)..... .25

Guide to United States government publications. (Bureau of Education Bul. 1918. No. 2) . . ..... .20

### Agriculture

Yearbook of the Department of Agriculture.....$1.00
Contains illustrated articles giving results of experiments and investigations on practical farm subjects. Of value to classes in commercial geography, home economics, and science as well as in agriculture.

Geography of the world's agriculture. 1917. (Farm Management Office).. 1.00
Articles, maps, and charts showing cultivation, production, and distribution of all important agricultural products.

Breeds of dairy cattle. (Farmers' Bul. 893)..... .05

How to grow an acre of corn. (Farmers' Bul. 537)..... .05

How to grow an acre of potatoes. (Farmers' Bul. 1190)..... .05

Illustrated poultry primer. (Farmers' Bul. 1040)..... .05

Spring manual of the U. S. School Garden Army. 1919. (Educ. Bur.)..... .05

### Botany

Collection and preservation of plant material for use in the study of agriculture. (Farmers' Bul. 586)..... .05

Directions for collecting flowering plants and ferns. (Agriculture Cir. 76).. .05

American medicinal flowers, fruits and seeds. (Agriculture Bul. 26)..... .05

Mushrooms and other common fungi. (Agriculture Bul. 175)..... .30

Poison ivy and poison sumac. (Farmers' Bul. 1166)..... .05

Weeds. (Farmers' Bul. 660)..... .05

Forestry lessons on the home woodlands. (Agriculture Bul. 26)..... .05

Primer of forestry. 2 parts. (Farmers' Bul. 173, 358)..... .10

COMMERCIAL GEOGRAPHY

Statistical Abstract of U. S. 1920. (Foreign and Domestic Commerce).... .50
Annual tabulated statistical information on population, commerce, industries, resources, finance, etc.

14th census of U. S. 1920. Population: Illinois. (Census Bul.)..... free

Abstract of the 13th census, 1910, containing supplement for Illinois..... 1.00

County Soil Surveys. (Agriculture-Field Operations.).....15 ea.
Soil surveys are being made for all parts of U. S., they contain descriptions of soils, climate, products, economic conditions, etc. Ones may be had for the following counties in Illinois: Clay, Johnson, Knox, McLean, Peoria, St. Clair, Sangamon, Tazewell, Will, Winnebago.

Argentine Republic, general descriptive data. 1920. (Pan-American Union) free
Similar pamphlets are published for Brazil, Chili, Colombia, Peru.

Bolivia, a commercial and industrial handbook. 1921. (Foreign and Domestic Commerce, Special Agent ser. 208.) Other recent and valuable publications in this series of commercial and industrial handbooks are:
Colombia. 1920. (Special Agent ser. 206)..... .70
Danish West Indies. 1917. (Special Agent ser. 129)..... .15
Norway. 1920. (Special Agent ser. 196)..... .10
Paraguay. 1920. (Special Agent ser. 199)..... .40
Switzerland. 1921. (Special Agent ser. 210)..... .40

Caribbean regions and their resources. (International Geographic Congress Rept. 1904.) Contains 26 small maps..... 1.00

Commercial handbook of China. 1919-20. 2v. (Foreign and Domestic Commerce. Miscellaneous ser. 84)..... 1.20

Hawaii, its natural resources and opportunities for homemaking. 1909. (60th Cong. 2nd Sess. S. doc. 668)..... free

Economic aspects of the commerce and industry of the Netherlands. 1912-1918. (Foreign and Domestic Commerce. Miscellaneous ser. 91)..... .15

New Zealand, its resources, industries, and trade, with suggestions as to its development as a market for American merchandise. 1912. (Foreign and Domestic Commerce—Special consular rept. 57)..... .15

In same series—Australia. No. 47..... .15

Panama Canal: general information. 1921. (The Panama Canal, Washington, D. C.)..... free

Russian cooperative movement. 1920. (Foreign and Domestic Commerce—Miscellaneous ser. 101)..... .15

Ports of U. S.; report on terminal facilities, commerce, etc., of 68 selected ports. 1916. 21 maps. (Foreign and Domestic Commerce—Miscellaneous ser. 33)..... .75

Ports of the world. (Navigation Bureau-Ditty Box Guidebook Series). Description with illustrations and maps of 17 important ports: Buenos Aires, Callao, Canton, Constantinople, Gibraltar, Hongkong, Honolulu, Naples, Paris, Yokohama, etc.

Table of distances between ports via the shortest navigable routes. 1918. (Hydrographic Office. H. O. 117)..... .45

Coal.

Coal: Illinois-Bituminous. 1920. (Federal Trade Commission Cost Reports No. 3)..... free

Coal-tar products and possibility of increasing their manufacture in U. S. with chapter on coal-tar products used in explosives. (Mines Technical Paper 89)..... .05

Corn.

Production and utilization of corn-oil. (Agriculture Bul. 904)..... .05

Fisheries.
Alaska fisheries and fur industries. (Fisheries Rept. 1918. Appendix 7) ..... .15
Illinois and Fox River mussel resources. (Fisheries Bureau Rept. 1913. Appendix 6, 7) ..... .15
Oyster and oyster industry of the Atlantic and Gulf coasts. (Fisheries Rept. 1919, appendix 8) ..... .20
Commercial sponges and the sponge fisheries. (Fisheries Bul., v. 28, 1908) ..... 2.25

Hemp.
Hemp. (Agriculture Yearbook, 1913, Sep. 628) ..... .05

Lumber.
How lumber is graded. (Agriculture Cir. 64) ..... .10
By-products of the lumber industry. (Foreign and Domestic Commerce —Special Agent ser. 110) ..... .10

Minerals.
Our mineral reserves, how to make America industrially independent. (Geological Survey Bul. 599) ..... .05
Useful minerals of the U. S. (Geological Survey Bul. 585) ..... .20
World Atlas of Commercial geology: Part 1. Distribution of mineral products. 1921. (Geological Survey) ..... 2.00

Nitrates.
Nitrate deposits. (Geological Survey Bul. 523) ..... .05
Utlization of atmospheric nitrogen. (Foreign and Domestic Commerce —Special Agent Series 52) ..... .15

Peanut.
Peanut, a great American food. (Agriculture Yearbook, 1917. Sep. 746) ..... .05

Potash.
Importance of developing our national resources of potash. (Agriculture Yearbook, 1916. Sep. 717) ..... .05
Sources of American potash. (Agriculture cir. 61) ..... .05

Sugar.
Sugar supply of U. S. (Agriculture Yearbook, 1917. Sep. 756) ..... .05

Tobacco.
Three centuries of tobacco. (Agriculture Yearbook, 1919. Sep. 805) .. .05

Wheat.
Cost of a bushel of wheat. (Agriculture Yearbook, 1920. Sep. 846) .... .05

Wool.
Wool, production, foreign trade, supply and consumption. (Agriculture Yearbook, 1917. Sep. 751) ..... .05
Wool trade of U. S., history of a great industry, its rise and progress in Boston. 1909. (61st Cong., 1st sess. S. doc. 70) ..... .10

Zink.
Zink and lead deposits of Northwestern Illinois. (Geological Survey, 1905) ..... .05

## Chemistry

Coal-mine gases. 1920. (Federal Board for Vocational Educ.—Trade and Industrial ser. 9) ..... free
Manufacture of nitrates from the atmosphere. (Smithsonian Inst. Rept. 1913. Separate) ..... .10

## Civics

Constitution of U. S., with amendments. 1920 ..... .10

House Manual: Constitution of U. S., Jefferson's manual, and Rules of House of Representatives of U. S., with a digest of the practice. (Congress—published for every session) ..... .45

Official congressional Directory. (Congress—published for every session.) .. .60
Contains brief biographical facts of members of Congress, personnel of committees, etc.

Education for citizenship with selected bibliography. 1921. (War) ..... free

Lessons in community and national life. (Education-Community Leaflets 19-24) ..... .05 ea.
For grades and High School. May be had in quantities of 100 copies for $2.00, 1000 for $9.50.

Outline course in citizenship to be used in public schools. 1916. (Naturalization) ..... .05

Teaching of civics as an agency for community interest and citizenship. 1921. (Education) ..... free

Training in courtesy. (Education. 1917. Bul. 54) ..... free

Immigration laws. Ed. 4. 1920. (Immigration) ..... .10

Dictionary of races or peoples. 1910. (Immigration Rept. v. 5) ..... .20

Naturalization laws and regulations. 1920. (Naturalization) ..... .05

Syllabus of naturalization law aid to public-school teachers in instruction of aliens in requirements of naturalization law. 1916. (Naturalization) .. .05

Monthly Labor Review (Labor), per yr ..... 2.25

Standard day's work in central Illinois, performance of implements and crews as, indicated by reports from 600 farms. (Agriculture Bul. 814) ..... .10

Fire prevention and fire fighting on the farm. (Farmers' Bul. 104) ..... .05

## Economics

Cooperative purchasing and marketing organizations among farmers in the U. S. (Agriculture Bul. 547) ..... .20

Origin of the national banking system. (61st Cong. 2d. Sess. S. doc. 582) .25

How other people get ahead. 1919. (Treasury, War Loan Organization) .... free

Other free pamphlets in this series are:
Teaching children how to save. 1920.
Teaching the simple principles of economics. 1920.
Ten lessons in thrift. 1919.

## History

North America.

Migration and food quest: a study in peopling of America. (Smithsonian Rept. 1894) ..... 1.00

Handbook of American Indians north of Mexico. 2 pts. (Ethnology Bul. 30, 2 pts.) ..... 3.00
An encyclopedia of Indian biography, history and customs.

Coronado's march in search of the "seven cities of Cibola" and discussion of their probable location. (Smithsonian Rept. 1869) ..... .70

U. S.

Areas of acquisitions to the territory of the U. S., areas of the states, territories, and possessions, diagram showing the historical development of the states. 1914. (Interior) ..... .05

Century of population and growth from 1st census of U. S. to 12th, 1790-1900. (Census) ..... .10

1800-1900, celebration of 100th anniversary of the establishment of the seat of government in the District of Columbia. 1901. (Congress-Printing Joint Com.) ..... 1.35
Contains history and illustrations of various meeting places of Congress, much historical information and many addresses.

Historical sketch of "Louisiana" and the Louisiana Purchase with a statement of other acquisitions. (General Land Office) ..... .10

History of the Seal of U. S. by Gaillard Hunt. 1909. (State) ..... .30

Our flag, its history and anniversaries, with a list of patriotic days and holidays. (Congressional Record, May 14, 1917, v. 55, No. 36) .... .12

Star-Spangled Banner. (Library of Congress) ..... .85

European War.

America's munitions. 1917-1918. (War) ..... 2.00
Graphic history of our contribution to the war in munitions of all kinds, airplanes, guns, etc.

Final Report of Gen. John J. Pershing as commander-in-chief of the American Expeditionary Forces in Europe. 1919. (War) ..... .85

Handbook of economic agencies of the war of 1917. (War, general staff) .50

South America.

Francisco de Miranda and revolutionizing of Spanish America. (Amer. Historical Assn. Rept. 1907, v. 1) ..... .75
Story of founding of Republic of Venezuela.

## Health and Sanitation

Keep Well Series. (Public Health Service.) Include pamphlets on such subjects as Adenoids, Diptheria, Good Teeth, Vaccination, Safe vacations, etc. ..... .05 ea.

Prevention of disease and care of the sick, how to keep well, and what to do in case of sudden illness. 2d ed. (Public Health Service—Miscellaneous publ. 17) ..... 1.00

Elementary first aid for the miner. (Mines cir. 23) ..... .05

Directions for restoring the apparently drowned. (Coast guard) ..... .05

Handy book for the hospital corps. (Navy) ..... .50
A first-aid manual.

Control of malaria; oiling as an anti-mosquito measure. (Public Health Service. Reprint 260 from Health Reports) ..... .05

Climate and tuberculosis. (Public Health Service. Reprint 387 from Health Reports) ..... .05

Typhoid fever, its causation and prevention. (Public Health Service. Bul. 69) .05
Similar publications are issued by the Public Health Service on Scarlet Fever and other contagious diseases.

Cockroaches. (Farmers' 658) ..... .05

Transmission of disease by flies. (Public Health Service Rept. Supp. 29. May, 1916) ..... .05

House rats and mice. (Farmers' Bul. 896) ..... .05

Good water for farm homes. (Public Health Service Bul. 70) ..... .05

## Home Economics

Bibliography of Home Economics Education. (Education. 1919. Bul. 46) .15

House.

Farm home conveniences. (Farmers' Bul. 927) ..... .05

Farm household accounts. (Farmers' Bul. 964) ..... .05
Farm kitchen as a workshop. (Farmers' Bul. 607) ..... .05
Home laundering. (Farmers' Bul. 1099) ..... .05
Roses for the home. (Farmers' Bul. 750) ..... .05

Food.

Canned fruit, preserves and jellies; household methods of preparation. (Farmers' Bul. 203) ..... .05
Care of food in the home. (Farmers' Bul. 375) ..... .05
Care of milk and its use in the home. (Farmers' Bul. 413) ..... .05
Cereal foods, with recipes. (Farmers' Bul. 817) ..... .05
Composition of food materials. 15 charts. (Agriculture) ..... 1.00
Foods rich in protein, with recipes. (Farmers' Bul. 824) ..... .05
Use and preparation of food. 1919. (Federal Board for Vocational Education, Home Econ. series 3) ..... .20
Use of fruit as food. (Farmers' Bul. 293) ..... .05
What the body needs. (Farmers' Bul. 808) ..... .05

Clothing.

Selection and care of clothing. (Farmers' Bul. 1089) ..... .05
Synopsis of course in sewing. 1911. (Indian Affairs) ..... .10

## Language and Literature

Library books for the High School. (Education. 1917. Bul. 41) ..... .15
French-English military technical dictionary with a supplement containing recent military and technical terms. 1917. (War Doc. 95) ..... .85
Teaching American ideals through literature. (Education. 1918. Bul. 32) .05
Lincoln's Gettysburg address, facsimile of original manuscript with letter explaining its authenticity. (Cong. Record, Feb. 12, 1920. V. 59, No. 53) .04
Washington's Farewell Address to the people of U. S., Sept. 17, 1796. (Cong. Record, Feb. 23 of every year) ..... .10

## Manual Arts

Bird houses and how to build them. (Farmers' Bul. 609) ..... .05
Farm and home mechanics, some things every boy should know how to do. (Indian Affairs) ..... .15
Laboratory exercises in farm mechanics for agricultural high schools. (Farmers' Bul. 638) ..... .05
Basket work of North American aborigines. (National Museum rept. 1884) .55
Navajo weavers. (Ethnology rept. 1882) ..... 1.15

## Music

Instruction in music. (Education. 1919. Bul. 5) ..... .05
Manual for recreational music, U. S. army. 1921. (War) ..... .05
Songs of soldiers and sailors of U. S. 1917. (War) ..... .25

## Physical Training

Physical education in secondary schools. (Education. 1917. Bul. 50) ..... .05
Games suitable for group athletics in Indian schools. (Indian Affairs) ..... .10
Manual of physical training. 1914. (War-chief of staff) ..... .50

Social plays, games, marches, old folk dances and rhythmic movements for use in Indian schools. (Indian Affairs) ..... .10
Useful in any school.

Annual report of Boy Scouts of America. 1918. (65 Cong. 2d. Sess. H. doc. 1012) ..... .10

Girl Scouts as an educational force. (Education. 1919. Bul. 33) ..... .10

## Physical Geography, Description and Travel in U. S.

Classification of clouds. 12 illus. (Weather) ..... .25

Existing glaciers of U. S. by I. C. Russell. (Geological Survey Rept. 1884) .. 2.25

Forecasting the weather. (Weather Bul. 42) ..... .10

Geysers. (Interior) ..... .10

Story of the atmosphere. (Agriculture Yearbook. 1915. Sep. 680) ..... .05

Story of thermometer. (Agrieuture Yearbook. 1914. Sep. 635) ..... .05

Study of map projection. (Coast and Geodetic Survey—Special publ. 60) .. .05

What the national forests mean to the water user. (Forest Service) ..... .10

Guide book of the western U. S. 4 pts. Pt. A—Northern Pacific, B.—Overland Route, C.—Santa Fe Route, D.—Shasta Route and Coast Line. (Geological Survey Bul. 611, 612, 613, 614) ..... .50 ea.

Glimpses of our National Parks. 1920. (National Park Service) ..... free

National Parks Portfolio. 3d ed. 1921. (National Park Service) ..... 1.00
Descriptions with beautiful pictures of all our national parks.

National Parks: Rules and regulations. 1921. (National Park Service) .... free

Panoramic view of Yellowstone National Park (National Park Service) ..... .25
Similar views may be had for other parks.

Secrets of the big trees. 1900. (National Park Service) ..... free

## Physics

Discussion of the national electrical safety code. (Standards' Handbook 4) .40

Handbook on the care and operation of gasoline engines. 1917. (Coast Guard) ..... .10

Important events in radiotelegraphy. 1916. (Navigation-Radio Service) ... .05

International metric system of weights and measures. (Standards') ..... .10

Modern methods of protection against lightning. 1917. (Farmers' Bul. 842) .05

## Vocational Guidance

Bibliography of vocational guidance. 1921. (Federal Board for Vocational Educ. Bul. 66) ..... free

Vocational guidance in secondary schools. (Education. 1918. Bul. 19) .... .05

Vocational education. (Education. 1919. Bul. 25) ..... .10

Descriptions of occupations: (Labor)

Boots and shoes, harness and saddlery tanning. 1918 ..... .10

Medicinal manufacturing. 1918 ..... .05

Metal working, building and general construction, railroad transportation, shipbuilding. 1918 ..... .35

Mines and mining. 1918 ..... .05

Office employees. 1918 ..... .05

Federal civil service. (Federal Board for Vocational Educ. Rehabilitation ser. Bul. 39) ..... free

Farm mechanics. (Federal Board for Vocational Educ. Rehabilitation ser. 36) . . . . . free
Industrial opportunities and training for women and girls. (Woman's Bul. 13) . . . . . free
Instruction in Journalism. (Education. 1918. Bul. 21) . . . . . .05
Profession of forestry. (Forest circular 207) . . . . . .05
New position of woman in American industry. (Woman's Bul. 12) . . . . . free
Women in government service. 1920. (Woman's Bul. 8) . . . . . free

### Zoology

Bird migration. (Agriculture Dept. Bul. 185) . . . . . .10
Conserving our wild animals and birds. (Agriculture Yearbook. 1920. Sep. 836) . . . . . .05
Fifty common birds of farm and orchard. (Farmers' Bul. 513) . . . . . .15
Game laws of 1921. (Farmers' Bul. 1235) . . . . . .05
Some common birds useful to the farmer. (Farmers' Bul. 630) . . . . . .05
Frogs: their natural history and utilization. (Fisheries doc. 888) . . . . . .15
Collection and preservation of insects and other material for use in the study of agriculture. (Farmers' Bul. 606) . . . . . .05
Insects which kill forest trees. (Agriculture cir. 125) . . . . . .05
Principal household insects of U. S. (Entomology Bul. 4) . . . . . .10

### Photographs, Slides and Motion Pictures

which may be borrowed or bought from the U. S. Government

The following departments and bureaus issue printed or mimeographed lists describing the material they have and giving the regulations governing its use. Unless otherwise noted this material is lent free except for transportation charges.

Agriculture, Dept. of.

Motion pictures of the U. S. department of agriculture: a list of films and their uses. 1920. (Agriculture circular 114.)

New motion pictures of the Department of Agriculture. July, 1921. A mimeographed list.

This department has nearly 500 reels on over 100 different subjects.

Education Bureau-Visual Instruction Section.

Educational films. Distributed through state centers. A mimeographed list of commercial firms from which lantern slides and motion picture films may be bought or rented.

Forest Service.

Pictures, sets of lantern slides, and traveling exhibits are lent to educational institutions for short periods. Photographic material, slides, enlargements and transparencies may also be purchased. Subjects include trees, commercial woods, game preservation, forestry, water supply, wood utilization, etc. Mimeographed lists and prices may be had from the Forest Service. See Agriculture Circular 114—motion pictures of the department of Agriculture for descriptions of its motion picture reels.

Geological Survey.

This office permits educational institutions to copy any of its 80,000 photographs illustrating various geologic and geographic features, provided the work is done by an approved local (Washington) photographer. It lends for short periods or permits the copying of any of its 4000 slides. It has three motion pictures of about 500 feet each, which it lends for a period of not more than ten days. Subjects: Examination of a mining district; a water-supply investigation, and a geological exploring party in Alaska.

National Park Service.

Lantern slides on Mount Ranier, Crater Lake, Yosemite, Grand Canyon, Glacier, Yellowstone, Rocky Mountain and Mesa Verde National Parks. Motion picture films including also Hawaii are available, and panoramic views of these parks may be had for 25 cents each.

Public Health Service.

Slides from the "Stereopticon Library," a set of 2500 views on various aspects of public health problems such as first aid, milk, typhoid fever, etc., may be borrowed. Information concerning these may be had by writing to the Surgeon-General, Public Health Service. A mimeographed list of commercial firms having motion pictures on health subjects.

Reclamation Service.

Colored lantern slides to accompany lecture on national reclamation, motion picture films and reels are loaned. Any breakage of slides must be paid for at the rate of $1.50 per slide. Subjects include desert, rivers, and reclamation projects. A mimeographed list and description of motion pictures.

Signal Corps.

Mimeographed list of official U. S. photographs shown at the Signal Corps Exhibitions in New York, Washington, Philadelphia, and other cities. 6½ x 8½ in. 1 cent each. Subjects: Our soldiers in France, Italy, Russia, Germany, during the world war.

"Flashes of action," 4 reels showing actualities of the world war. Obtainable from the Signal Corps at 10 cents per ft. positive.

Woman's Bureau.

Posters, panel exhibits 39 x 48 inches, illustrating through colored photographs and sketches, standards of employment for women in industry; one motion picture film, "when women work."

## Maps for High Schools

## Compiled by Florence R. Curtis

A collection of maps, mostly unmounted, published by the departments and bureaus of the national and state governments and by other non-commercial organizations which may be had free or at small cost by libraries and schools. The collection consists of sample maps of various parts of the world, but particularly those illustrating geographic, geologic, physiographic, or economic features of the United States.

North America.

Geological Survey map, 29 x 38 in. (U. S. Geol. Survey).....$ .40

United States.

Land Office map, 5 x 7 ft., mounted. (Supt. of Docs.)..... 2.00
Territories and insular possessions, Indian, military, bird, game and forest preservations, railroads, canals and national parks.

Geol. Survey wall map, 49 x 76 in. (U. S. Geol. Survey)..... .60
In two sheets, with or without contours.

Geol. Survey wall map, 49 x 76 in. (U. S. Geol. Survey)..... 1.00
Without contours, showing oil and gas fields.

Geol. Survey wall map, 55 x 85 in. (U. S. Geol. Survey)..... 1.00
In two sheets, without contours, showing coal fields.

Geol. Survey map, 18 x 28 in. (U. S. Geol. Survey)..... .15

Geol. Survey base map, 11 x 16 in. (U. S. Geol. Survey)..... .05

Geol. Survey base map, 8½ x 12 in. (U. S. Geol. Survey)..... .01

Geol. Survey relief map, 18 x 28 in. (U. S. Geol. Survey)..... .15

Geol. Survey map, showing major physiographic divisions of the United States. 1919. (U. S. Geol. Survey) ..... free

Geol. Survey index map, showing physiographic provinces and distribution of quadrangles represented in the set of 100 selected maps which the Geological Survey has prepared for use of schools to illustrate specific physiographic features. (U. S. Geol. Survey free). Per set 6.00

Illinois.

Land Office map, 32.8 x 19.3 in. (Supt. of Docs.) ..... .25
The General Land Office publishes a map for each state showing the capital, county seats, railroads, canals, county boundaries, swamp and prairie lands, bird and Indian reservations, and life saving stations. 25 cents each.

Geol. Survey base map, 3d ed., 1919. (U. S. Geol. Survey) ..... .15
Base maps have been printed for most states. These have been prepared in connection with the great international map of the world which is being made by the leading nations of the world on the scale of 1 to 1,000,000. They show accurate position of all principal cities, towns, villages, streams, railroads and the main political sub-divisions. They vary in size and price, 3 to 27 cents.

Ill. Geol. Survey.

Geologic map, 35 x 51 in., 1917. (Ill. Geol. Survey, Urbana, Ill.) .. .15

Base map, 1919. (Ill. Geol. Survey, Urbana, Ill.) ..... .05
Shows county and township lines, principal towns, and railroads.

Mineral Industries, 29 x 49½ in., 1920. (Ill. Geol. Survey, Urbana, Ill.) ..... .25

Relief map, 4 x 7 in., 1895. (Ill. Geol. Survey, Urbana, Ill.) ..... .05

County map, 7 x 12½ in. (Ill. Geol. Survey, Urbana, Ill.) ..... .08

County map, 4 x 8 in. (Ill. Geol. Survey, Urbana, Ill.) ..... .01

County outline map, 8½ x 14 in. (Ill. Geol. Survey, Urbana, Ill.) .. .03

Index map to topographic and geologic folios of Illinois. (U. S. Geol. Survey) ..... .05
The U. S. Geol. Survey in cooperation with the State Geol. Surveys has been engaged since its organization in making a topographic survey and atlas of U. S. The unit of the survey is a quadrangle of a certain size, these are mapped showing roads, water features, etc. A selection of 25 topographic maps has been made for schools illustrating a variety of geographic features. Price per set ..... 1.00

Topographic map—Champaign Co. (U. S. Geol. Survey or Ill. Geol. Survey) ..... .07

Starved Rock State Park Topographic map, 8x12 in. (Ill. Geol. Survey) .10

Geologic folio, No. 200, Galena-Elizabeth (Ill.) (U. S. Geol. Survey) .... .25
Under the plan adopted for the preparation of a geologic atlas of U. S. the entire area is divided into small quadrangles which are surveyed and mapped. The maps are issued in folio form and are designated by the name of the principal town or prominent natural feature within the quadrangle. The topography, geology, underground structure and mineral deposits with descriptive text are included in the folio. Price varies, 5 cents to $1.00.

Railroad map (Ill. Traction System, Peoria, Ill.) ..... .02

State Dept. map showing marked through routes in Illinois (Ill. Secy. of State) ..... free

Poste route map of Illinois (Disbursing Clerk, U. S. Post Office Dept.) .50
The U. S. Post Office Dept. publishes maps showing post routes and location of principal post offices in each state.

Champaign Co. Rural free delivery service map (Disbursing Clerk, U. S. Post Office Dept.) ..... .35

Mounds, Ill., Rural delivery route (Disbursing Clerk, U. S. Post Office Dept.) ..... .10

Maps are published by the Post Office Dept. for the counties in which rural free delivery postal system is completely installed. Maps are of two forms, one giving simply the rural free delivery routes starting from a single given point, and the other rural free delivery routes in the entire county. Both show roads, rivers, creeks, schools, churches, and even residences.

Chicago Lake Front, No. 1, 34x30 in., 1918 (U. S. Lake Survey, Detroit, Mich.) ..... .20

Oregon.

Road and recreation map, 1920 (U. S. Forest Service) ..... free

Panama Canal.

Map of the Isthmus, 11½x14 in., 1920 (Chief Office, Panama Canal, Washington, D. C.) ..... free

South America.

Map showing submarine telegraph system "via All America," 21½x30½ in., on linen (All America Cables, 89 Broad St., N. Y.) ..... free

National Geographic magazine map, 25x35 in. Economic, physical and temperature insert maps. Shows rail roads, navigation lines, glaciers and marshes. 1921 (National Geographic Soc., Washington, D. C.) 1.00

On linen ..... 1.50

Asia. 1921.

See description of National Geographic map of South America (National Geographic Soc., Washington, D. C.) ..... 1.00

Europe. 1921.

See description of National Geographic map of South America (National Geographic Soc., Washington, D. C.) ..... 1.00

Europe and Asia Minor (with inserts of Africa and Oceanica) based on various data including maps of Edw. Stanford, John Bartholomew & Co., and the Hydrographic Office map 62. Geological Survey, 1921. 2 sheets each 57.5x31.7 in. 1921 (Military Intelligence Office) (Supt. of Doc.) ..... 1.25

## 10. HOME ECONOMICS SECTION

### The Morning Session

The morning meeting was called to order by Miss Wardall who opened the meeting with a word of welcome.

Customary notices and announcements were given.

It was moved, seconded and carried that a nominating committee be appointed by the chair to take care of the vacancies in the Home Economic Section.

Miss Treganza, Bloomington; Miss Peterson, Peoria, and Miss Gibson, Clinton, were so appointed.

Miss Wardall introduced Miss Adah Hess, Acting Supervisor of Vocational Home Economics Courses, Springfield, Ill., who gave the following address after delivering greetings sent by Miss Cora Davis.

## Ideals of Homemaking

Adah Hess, Springfield

Ideals of Homemaking that should be fostered by vocational training is the topic that has been assigned me. The first question that naturally arises is what are ideals of homemaking? The dictionary defines ideals as perfect types, standards of perfection, beauty or moral or physical excellence. The word, homemaking, is not even accorded a place in the dictionary or encyclopedia although we find that the dictionary accords home-brew a place. The term homemaking has and is still being used by many home economics workers as synonymous with housekeeping, housewifery and home management, while some of us feel that home making is a much larger term and that it includes all the activities that center in and around the home. Another question that arises is why was such a homely topic assigned a place in this High School Conference? This last question can best be answered by quoting from a recent report made by Miss Cora I. Davis relative to Vocational Home Economics teachers in Illinois. She states, "Great care has been taken in securing properly prepared teachers. By far the largest percentage are graduates of a four year college course in Home Economics. Besides being technically prepared in the subjects to be taught these teachers must have the right ideals of homemaking. These, no four year college course can firmly establish because ideals are of slow growth. They are the expression of the inner consciousness of the teacher, the product of her own home environment and the ideals in her community shown in her fastidiousness with reference to neatness, cleanliness and orderly arrangement and in her appreciation of gentleness, simplicity, genuineness and economy. Not all teachers measure up to these high standards but only those are retained, the spirit of whose work makes for these right ideals of homemaking." Last year four of the vocational home economics teachers were dropped because of their lack of proper ideals in homemaking. All but one of these young women held University degrees and when I say University please remember that University does not always mean the University of Illinois. Can you imagine going into the laboratory of a young woman possessing a bachelor's degree in home economics and finding coats, books and wraps stacked upon the kitchen table, mouse tracks in the cupboard, flies in great numbers busily buzzing about the room and the teacher in a soiled crumpled apron? This seems well nigh impossible yet it is a true statement of what was found in one school here in Illinois last year. Not wishing to be too severe upon this young woman's housekeeping, she was paid a return visit in about six weeks. The wraps were no longer in the classroom but the same dirty conditions existed in the cupboards and storeroom. This teacher's ideals were so lacking that she did not realize the necessity of maintaining one of the minimal essentials of good homemaking, that of cleanliness.

In speaking of minimal essentials we must ask ourselves this question: What should be the standards of living toward which we are striving? The answer to this should be, *to establish good American standards of home life.* Of course we are all agreed that the best place to learn homemaking is in the home but in many places this is neither desirable nor possible because many of our students come from homes of poor standards or live in hotels or boarding houses. Therefore it behooves us in so far as possible to have our laboratories and classrooms represent the conditions of a well equipped American home of moderate means. Our teachers must realize that the high school girls are at the impressionistic age, they are looking for ideals and are far more ready to take suggestions from others than from their parents. Hence the teacher's great responsibility. She must by example and by working *with* instead of *over* instill in her girls the right ideals of homemaking. Our girls need to learn that the efficient American homemaker possesses poise, affability, robust health, a sense of humor; that she is observant, exercises self control and is ever considerate of others and creates an atmosphere of cleanliness and hospitality. The students and the teacher must be cognizant of this motto, "What I am to be I am now becoming." It is the

girl and her present home that must be ever kept in mind, not the home she will have in the distant future. This means a friendly intelligent cooperation with the home. I can better bring out what I am trying to say here by a concrete example. Not many weeks ago I visited a laboratory where a lesson in Table Service was in progress. This lesson was being taught in a district where the majority of children came from homes of less than moderate incomes and where many of the girls go into Industry and yet the teacher was teaching the serving of a breakfast in three courses with the use of two maids. In a conference with the teacher after the lesson among other questions I asked these: Do you employ a maid in your home? Her reply was, you know I cannot afford to hire a maid. How many of these girls have maids in their own home? Reply, not any. How many of them came from homes that can afford the time and energy necessary to serve a breakfast in three courses? To which she replied, I doubt if any of them could give so much time to a breakfast because practically all of these girls come from large families and in many cases she is the eldest daughter in the home. To my question, why did you not plan this lesson to teach the girl to act as the big sister in the home, teaching her to be of assistance to her busy mother by getting the hot dishes from the kitchen when the time arrives for them to appear on the table and by helping her mother to look after the wants of the smaller brothers and sisters, she replied I wanted these girls to know ideal table service. Now I am sure that there is not one of you but would agree with me that this teacher's ideals of homemaking were sadly out of focus. Shall we not in our vocational homemaking classes foster those ideals that will function in the everyday life of our girls?

One of the most important everyday needs of our students is the correct handling of table implements and good American table manners. Of necessity I must eat many of my meals in public cafeterias and eating houses and it grieves me to see attractive, intelligent appearing young women violate correct table habits. Some of you I know will hardly believe it possible that any high school graduate would use her knife for carrying food to her mouth, eat her soup or drink audibly. Yet within the past week I have seen young women do these very things and many others equally as bad. A high school principal in one of our larger middle-western cities told me that he never employed a teacher without first having taken the prospect out to dinner and that the food she chose, the manner in which she ate it, the handling of the table implements and her table conversation were important factors in deciding whether or not she would fit in his school. I have been told that this is no uncommon practice among employers in "big business." Does it not then behoove us, as teachers of home economics to see to it that our girls know how to carry on pleasant and profitable table conversation and acquire American table habits?

The great responsibility of the modern homemakers is the intelligent expenditure of her own time and energy. This can be brought about by the careful evaluation of one's daily routine, in other words by the efficient management of one's own time, one's resources and responsibilities and incidentally the services of the others. I think I can hear some of our teachers saying that is all very well and good but it can't be done. It can be done because it is being done right here in Illinois. In one school which I recently visited the teacher because of heavy enrollment and lack of funds was teaching eight periods per day and in whose school there was no maid service, the only cleaning given the kitchen, the laundry and the sewing laboratories was that done by the janitor of the building, and yet her laboratory was spotless, her cupboards and storerooms in order, she herself was well-poised alert and sympathetic. Her girls were a hundred percent class when it came to appearance, attitude in the class room and manipulation. This was brought about by careful planning. Committees of girls from each group attended to the marketing, the placing of supplies on the supply table, the removal of supplies, the placing of them in storage, the cleaning and arranging of cupboards, table, drawers, lockers, etc. These committees were changed periodically so that each girl has an opportunity to be

responsible for each duty sometime during the semester with the result that the girls of these classes are becoming better citizens and are really acquiring ideals that are worthwhile.

The example of the teacher is as of much importance as her spoken word. The teacher who has a tidy well-ordered laboratory or classroom; clean, orderly and carefully arranged cupboards and storeroom; who is always well groomed; who plans her work to save time and effort; who keeps abreast of the times; who is socially worthwhile in her community and who leads her students to exercise prevision, forethought, prearrangement and planning in their daily lives is truly helping to foster ideals of homemaking and best of all she is helping her students to become good Americans.

Miss Rose led the discussion on this paper.

The question of teaching sex hygiene brought out the statement that it was a difficult subject to handle, that it was vital to the welfare of the nation and must not be overlooked.

Relative to the admission of boys to cooking classes, the statement was made that lack of funds and space usually prevented this. However, boys do help at home and are entitled to some consideration in this matter.

The Junior High at Hamilton, Ill., does give work to boys.

Devices and incentives for high ideals in personal appearance were suggested as follows:

A banner to be given to the division with best aprons as to length, buttons and cleanliness.

A grade taken once a month on personal appearance.

Does school teaching carry over into the home?

In some communities the project makes the connection. In others, reports on home work done have proven more successful than assigned projects. In others, the working out at home of a dish taught in school with report as to cost of food, time consumed and success of work have proved satisfactory. Supervision of home work is impossible—it can merely be a report by the pupil of work done.

The answers to the question of methods of directing table conversation showed diversity of methods—from letting it care for itself to a rehearsal of story preceding the function.

The second paper of the morning was given by Miss Emily Frake of Chicago, Ill., an outline of which follows:

## Clothing Study for Girls

I. Introduction,—A high school sewing course should be based on the need of sewing from the standpoint of the high school girl, primarily to fill her immediate needs, and secondarily to give her a basic knowledge on which to form her future judgments.

1) The construction of a wardrobe suitable both from a social and economic point of view.

2) Suitability toward each other of material, design, and constructive processes.
3) Fibre as it affects the cloth from the standpoint of suitability, wearing quality, hygiene, etc.
4) A short study of manufacturing processes as they affect the fabrics.
5) A comparison with ready-mades on the market, summarizing the cost of garment, including a minimum charge for making by unskilled labor.

First semester's work should thoroughly cover simple constructive processes.

II. Selection of garments to be made.
1) Introductory garment to show technique of girl.
Bungalo apron; undergarment such as envelope or straight chemise, or bloomers and camisole; child's dress.
2) Other garments required, 4 for freshmen, and sophomores; 5 for junior and seniors.
Blouse or smock, set in sleeves.
One piece dress.
Skirt, under or outside.
Princess slip.
Midi.
Kimona or negligee.

III. Teaching of processes as required during progress in construction of garments.
1) Simple equipment.
2) Preliminary facts about cloth, warp, woof, selvedge, bias, nap.
3) Commercial patterns, the use and method of altering.
4) Suitable material for garment selected, discussed as sequence requires.
5) Economical placing of pattern on cloth. First garment preferably of plain cloth, the next with small check, and then more elaborate designs.
6) General directions and suggestions.
7) Stitches required,—bastings, running, gathering, overhanding, overcasting, hemming, diagonal and straight.
8) Use of machine,—care, operation and points of technique.
9) Seams,—plain, french, flat fell, both stitched and hemmed.
10) Facings, bias, fitted, and straight.
11) Various edge finished, especially for underwear.
12) Fastenings,—buttons and buttonholes, snaps, hooks and eyes.
13) Plackets, hem, straight band and extension.
14) Hems.
15) Fittings of garments.

Second semester's work should study wash materials and how to judge them as to wearing quality, suitability to purpose; slightly more elaborate garment construction, and simple summer millinery.

I. Garments constructed.
Piece of household linen.
Simple tailored wash dress, then a lingere dress.
Making of simple straw hat.
One other garment, choice made by students.

II. Piece of household linen.—Purpose to use as pick up work to fill in unexpected delays.
1) Type.—Lunch cloth, individual covers, tea napkins, scarfs, dresser or buffet, bed spread, towel, etc.
2) Materials of many types.
3) Embroidery stitches, plain and Italian hemstitching.

III. Textile economics.
1) Short study of processes of cotton and linen.
2) Study of structural and surface design.
3) Identification of fibres and tests for adulteration.
4) Identification of samples by similarity of material and weave such as poplin, ottoman, gaberdine, tricotine, pique.
5) Points by which to judge standards of cloth.

IV. Teaching of more elaborate constructive processes needed on these garments, after a review of those already taught which may be used on the dresses.
1) Selection of type.
2) Selection of material suitable to style.
3) Constructive processes.
a) Emphasize small size of french seam.
b) Preparation for machine hemstitching of seams, picoting, etc.
c) Use of attachment for narrow hems.
d) Gathering by changing of tension, by use of attachment.
e) Rolled hems.
f) Corded ruffles.
g) Tucking:—measuring for, use of attachments, run in by hand.
4) Comparison of cost and technique with a readymade.

V. Simple millinery.
1) Show possibilities of alteration of buckram frames if desired.
2) Method of sewing on straw, or
3) Covering brims with bias of material, governed by season.
4) Simple trimmings as flowers, bias bands for brim bindings, milliner folds, bows in vogue at that time, etc.
5) Stitches necessary as catchstitch, slip stitch, etc.
6) Making and putting in lining.

VI. Laundry.
1) Importance of cleanliness.
2) Equipment.
3) Reagents and use of each.
4) Laborsaving devises.

VII. Hygiene of clothing.

VIII. Personal cleanliness and grooming.

### Second Year Work

Third semester work should teach winter millinery, costume design in line, color, influence of textile and fabric on line, figure, and design, and wool technique.

I. Fall millinery.
1) Shape of face in relation to hairdress and hat shape. Collection of reference material from magazines.
2) Review of preliminary millinery work.
3) Teaching of new processes for winter millinery.

II. Woolen dress.
1) Care, repair, renovation, and laundering of old woolen material.
2) Points on woolen technique, working with nap, tailored seams, joining on belting, renovation of linings, arrowheads, finishing braids, etc.
3) Study of characteristics of woolen fibres, manufacturing processes, adulterations, etc.

III. Costume design.
   1) Yoke in relation to face.
   2) Lines of dress in relation to figure.
   3) Material and textile in relation to purpose and design of dress.

IV. Hygiene of fibres, their relation to body heat, cleanliness, etc.

V. Selection of clothing from the standpoint of a well selected wardrobe.

VI. Comparison of dresses made with ready-made dresses.

VII. Making of other garments for rapid sewing practice.

Fourth semester work should teach summer millinery, costume modeling, and work on silk.

I. Summer millinery.
   1) Review work on straw.
   2) Technique of sheer millinery.
   3) Review work on millinery design.

II. Costume modeling, using a plain waist pattern, two piece sleeve, and five gored skirt pattern.
   1) Surface cutting on waists, horizontal and verticle cutting, irregular shaped pieces, and drop shoulder.
   2) Various types of sleeves.
   3) Types of skirts moulded from skirt pattern.

III. Collection of reference material showing unusual designs which might be used in future work.

IV. Silk dress.
   1) Care, repair, renovation and laundering of old silk material.
   2) Points on silk technique, cording, piping, bound buttonholes, etc.
   3) Points of care in using silk, such as changeable silk, velvets, etc.
   4) Study of characteristics of silk and artificial silk fibres, manufacturing processes, adulterations, tests, wearing quality, etc.
   5) Construction of a dress from pattern which has been moulded.

V. Study of the clothing budget, in amounts necessary, and prices, the buying of accessories, etc.

VI. Meaning of a well groomed person, especially a high-school girl.

VII. Making or remodeling of other garments for rapid sewing practice.

Miss Murphy led the discussion following Miss Frake's paper.

In answer to questions, Miss Frake said:

At present the sewing classes meet four days a week with home assignments.

Costume design is taught in the sewing class, the drawing teacher giving pure design.

That it was difficult to do real dyeing as a school project but that a discussion of the dyeing processes was always given.

That merchants are usually willing to send out garments for inspection and demonstration.

That much may be gained from advertisements and window shopping.

As to the dependability of elementary school work as a basis for high school work the following fact was shown;

In two classes in high school, one composed of pupils with 72 lessons in elementary school sewing, and one composed of pupils with no preliminary work, during the first semester of high school work there was a great difference between the two classes; that beginning the second semester the work of the two classes was practically parallel.

Any use of elementary training as a basis for high school work presupposes a review of such work.

The following was suggested regarding the renovation of clothing:

Objection on part of girls may be overcome by tact of teacher.

Garments may be brought before the time of work so problem may have general discussion.

It may become a social problem—making garment for some one else.

May be a part in a large social program of the community.

Clothing courses should include information about and study of the problem of buying ready to wear clothing. This as all other phases of the work should be made to fit the community need. This may mean demonstration with garments by merchant, or the study of catalogue and advertisements. It certainly means comparison of costs, recognition of value of materials, correctness of line in garment, suitability of style to individual and worth of tailoring or sewing.

Again the value of accounting and budgeting comes to the front. If a girl and her parents know what has been spent for her clothing during the high school age they should better know how and what to plan for college and future living.

The question of "what text" brought a diversity of answers as to the exact title. Every one seemed to feel that there was some value in all texts and much value in some. Several recommended the use of various texts as reference books with typed sheets given to pupils to fit their particular needs.

The newness of the subject, the great diversity of the work as given, calls for a standardization of work and a real book which will surely come.

The use of large models and good illustrative material for demonstration was recommended as was free use of all sorts of illustrations, models and samplers in the hands of the pupils.

The session adjourned to meet at 2 o'clock P. M.

## The Afternoon Session

Miss Wardall called the afternoon session to order and asked for the report of the nominating committee which was given by Miss Treganza:

Miss Ruth A. Wardall to finish the unexpired term of Miss Isabel Bevier.

Miss Ethel Rose of Bement, 1924.

Miss Olla Johnson of Illinois Wesleyan Uni., Bloomington, 1924.

There being no nominations from the floor, it was moved, seconded and carried that this report be accepted.

The usual announcements were given.

There were no reports from standing committees and no old business.

Miss Ruth Wardall gave a short talk on the organization meeting of the Illinois Home Economics Association held in Chicago, October 21-22, 1921. She said in part:

"This was a splendid opening meeting, a great inspiration. The call for the meeting met with cordial response, over two hundred paid up memberships. The annual membership dues in the Illinois state association are $2.00. Membership in the state association automatically makes one a member of the American Home Economics Association. One half of the dues goes to the National Association.

The state association is organized with several sections: Home Makers; Extension and Social Workers; Institutional Managers; Schools and Colleges. Others will be added as the growth of the work demands. Surely we all have much in common in a large program of future activities.

Miss Alice Treganza, Treasurer, is here ready to receive your dues—let us make it a 100% membership."

Miss Wardall introduced Miss Robinson who lead a round table on "Courses on the Home."

Miss Robinson called attention to the fact that three units were now accepted at the University of Illinois for entrance, one on food, one on clothing and one on the home; each having eight periods per week, two of which must be recitation.

She then gave a short talk on the intangible things called appreciation and recognition of the value of a home.

This was followed by a short talk from Miss Allen on the tangible phase of the home, using the following outline:

A. Meaning of Home
B. The Home
    Site
    Locality
    Structure
    Arrangement
C. Equipment of the House
    Furnishing
    Light
    Heat
    Water Supply
D. Activities
    Division of Income
    Organization of Work
    Care of Furnishing (Laundry)
    Care of Family (Home Nursing)

Miss Gibson gave a short talk on the Home Course as taught at Clinton, Illinois.

The following is a brief outline:

THE HOME COURSE

I. Development of the Family
    Lectures during home course
II. Development of the House
    Miss Bevier's "The House"
III. House Planning
    Gordon Van Tyne Catalogue and others
IV. Heating, Lighting and Plumbing
    White's "The House"
V. Interior Finish and Decoration
    Woodwork, Plaster, Paper
    Parsons' "Interior Decoration"
VI. Exterior Finish
    Painting, Shingles, Stucco, Brick, Stone, etc.
VII. The Garden and Lawn
VIII. House Furnishing
    Eberlein's "History of Furniture"
IX. Care of the Home
    Cleaning by sanitary methods
X. Relation of Home to the Family

PRACTICAL WORK

Each girl drew a floor plan of the house she selected, using cross section paper. Each room was then drawn to scale and the furniture placed.

The paper, floor covering and draperies were selected and samples used when possible.

This was all placed in book form and a cost sheet made. When the girls had made their books according to their own choice, each was given a definite amount and asked to select her furnishings accordingly. Good taste was evident in many cases.

The home project work was carried on as follows: The girls were asked to take care of the different rooms in the home for one week, beginning with her own

room and taking the living room, dining room, kitchen, bath room, closets, and basement. The mothers' criticisms were both appreciative and amusing. In the spring, each girl took charge of the lawns and in most cases planted shrubs and flower gardens. They next turned to the back yard and made improvements as well as valuable vegetable gardens. Some of the mothers reported new interest and improved house keeping on the part of the girls.

Miss Moore of Stanford Community High School told of having a small apartment in connection with the teaching laboratory where she has been able to so arrange the work that it is unnecessary to have a maid since the pupils are able to do all routine upkeep as part of their regular work.

Miss Tiffany, Antioch, Ill., gave the following paper.

## Home Economics in a Community High School

The Community High Schools that I am familiar with are the small ones located in rural districts or small villages. The enrollment of some of these schools is about 100 with a faculty of seven or eight. Now Home Economics in schools like these or any other school should mean more than classes in Foods and Clothing. We are familiar with Mrs. Richards' definition: "Home Economics stand for:

"The ideal home life for today unhampered by the traditions of the past.

"The utilization of all the resources of modern science to improve the home life.

"The freedom of the home from the dominance of things and their due subordination to ideals.

"The simplicity in material surroundings which will most free the spirit for the more important and permanent interests of the home and society."

If Home Economics stands for all of this have we fulfilled our duties as teachers when we have taught our classes in "cooking" and "sewing"? The day of teaching just cooking or sewing classes is past; we have a broader field to work in and that is the school and community. Home Economics in the Community High School should benefit not only the girls taking that subject but the entire school and community.

We, as Home Economics teachers, should feel more or less responsible for the health of the high school boys and girls. Much good may be done through a health campaign, nutrition work, school lunch, etc. Last year Wisconsin accomplished much through milk campaigns. The Home Economics and Agricultural Departments of a school might well put on such a campaign. Margaret Sawyer of the American Red Cross gave an excellent address at the first meet of the Illinois Home Economics Association on nutrition work. Her topic was, *A Nutrition Program for the Entire School.* If it is impossible to carry out a full nutrition program much good can be done by providing a hot school lunch if there is no regular lunch room connected with the school. There is no question as to the need of providing some kind of a hot lunch or supplementing the lunch brought from home with one hot dish. Many boys and girls in our Community High Schools leave home early in the morning and do not return until late in the day. The cold lunch is all they have to eat from 6:00 or 6:30 in the morning until 6:00 or after in the evening. What right have we to expect good work under such conditions? It is up to the schools to provide a hot school lunch and naturally it is the Home Economics teacher who must be at the head of this work. The school lunch may be very simple consisting of but one hot dish to supplement the lunch brought from home or it may be a cafeteria lunch. If it is impos-

sible to get outside help the one hot dish is about all that should be attempted. It is not absolutely necessary to have a dining room. Trays may be carried to the study hall. The regular foods laboratory with a little extra equipment answers the purpose for the preparation of the food.

In one of the small schools we tried the one hot dish during the coldest weather. The girls of the Home Economics Club did this. We were so pleased with the results that the following year we had a cafeteria lunch for nine months. We had outside help for this but the girls always helped during the serving. It would be almost impossible for that school to get along without the hot school lunch today. I believe that there are many schools doing work similar to this, even the district schools have their hot lunch at noon. In fact there is no reason for not having a hot lunch in every school.

I must tell you about my Home Economics Club. It is a splendid organization to have in a school. It would be very hard indeed for me to carry on my work if it were not for this club. The girls who have had Home Economics and those taking it are eligible for membership. We hold meetings regularly. When we have a speaker and a good program we have an open meeting and invite the girls and women of the community. The members get much benefit from their club work and they certainly help others. It was the club that provided the one hot dish lunch for the school during the cold weather. They are always ready to take up any work in their line that needs to be done.

Now when it comes to the community the work of the Home Economics teacher often stops. Of course we are not wanted prying into women's kitchens, etc., but we may get into the homes through the "Home Project" that we are so interested in today and become acquainted with the mothers and find out what some of their needs are. This is our chance to do some extension work and I believe that every Home Economics teacher should be to a certain degree an extension worker. She should know what the Home Bureau stands for and keep in touch with the work being done by the Extension Department of the University and call upon them for help. I had the privilege of being connected with a small high school that has what we called a "Short Course." The school that I am in now is to have a similar course this year. This short course was put on by the Agricultural and Home Economics Departments with the assistance of the other departments of the school. It lasted three days. The day programs consisted of two sections, one for the women and girls, and one for the men and boys. The evening meetings were combined. The speaking in the evening was always supplemented with short plays and orchestra or glee club numbers. We depended upon the Extension Department of the University for most of our speakers and it was only through their help that these short courses were made possible. The people of the community were brought into closer touch with the University through the men and women sent to us and felt that it was really their University. The community looks forward to the Short Course as an annual event. If you have never done anything along this line in your school, try it and I am sure it will become an annual event with you. Try it.

These are but a few of the things that we as Home Economics teachers can do. There are many others and I hope some will be mentioned in the discussion that follows. But let us remember that we have a broad field to work in and all of our duties are not confined to the class room. Teach Home Economics to the entire school and the entire community.

During the discussion it developed that about half of those in attendance upon this session were from community high schools. In many of these schools there is the problem of warm food for lunch or to supplement lunch. The Home Economics instructor has solved this problem in many ways:

The use of a graduate of the high school to work under the direction of the instructor to act as lunch room cook.

The use of members of advanced classes as help, the work to rotate at stated intervals.

The class to do the cooking when the problem is a valuable one.

Serving lunches for a stated period when it can be made a real cafeteria course under Smith Hughes.

Demonstrations, exhibits, institutes and short courses which are open to all the women in the community may be a part of the work of the Home Economics teacher in a community school.

Miss Elizabeth B. Scholes, Home Economics Extension, gave a paper of which the following is an abstract:

## Nutrition Health Classes for Children

"Every child has the right to be well born, well nourished, and well cared for."

Under the economic stress of today we have reached a point where we realize that children may be quite as important a factor in the nation's wealth as are its crops, its cattle and pigs. This may seem harsh but viewed in the light of statistics and from the vantage point of observation it is a serious truth. Not that we have loved our children less, but that we have allowed our time and thought to be consumed with the eternal question: how to make a living for those children.

Today with one-third of the children in the United States of America below par physically, another one-third on the borderline, and only about one-third in fit condition, we wake up to the fact that if the next generation is to be safeguarded, the children of today must form the right health habits. Statistics show that of the 20,000,000 school children in the United States—

5% are tubercular
15-20% have adenoids
25% have defective eye sight
⅕-⅓% or at least 4,000,000 are malnourished. i.e. at least 10% below normal weight.

Not all cases of malnutrition can be discovered by the height, weight standard. It is a surprising fact that malnutrition exists to a greater extent among the rich than among the poor.

Why feel alarmed about the malnutrition of children?

MALNUTRITION

| In Childhood Means— | In Adult Life Means— |
|---|---|
| Stunted growth | Disabled |
| Under weight | Unemployable |
| Nervousness | Incapable of resisting disease |
| Irritability | Burden to society |
| Finicky about food | Cannot count costs |
| Diminished energy | |
| Listlessness | |
| Lack of resistance to disease | |
| Lack of mental power | |

Delinquency among children is said to be due to three causes: malnutrition, maladjustments of family relationships, and feeble mindedness; but not that malnutrition ranks as first cause.

Careful estimates show that one year of malnutrition under the age of six means a loss of five working years after the age of forty. A malnourished child is a sick child and should be given consideration and should be helped to overcome whatever is hindering him.

Contrast against this dark picture that of the normal, well nourished child:

Steady growth
Full weight for height
Steady nerves
Good disposition
Healthy appetite
Energetic
Resistant to disease
Efficient: physically and mentally.

The adult such a child must make:

Healthy, vigorous body
Capable of steady work
Constructive, productive citizen
Asset to society.

We must get this ideal and keep it before ourselves and our children. Our physiology must be positive if we are to help to establish right reflexes.

In general malnutrition may be due to ignorance, lack of home control, or poverty; but the specific causes are

I. Physical

Obstructed breathing caused by enlarged tonsils and adenoids
Defective teeth
Other physical defects

II. Faulty health habits

Eating—
insufficient and improper food
fast eating and rushing back to school
irregular meals
lack of essentials in the diet
use of sweets between meals
use of tea and coffee

Fatigue—
lack of sleep or disturbed sleep
late hours and excitement
overtired during the day

Lack of fresh air—
day and night
lack of outdoor exercise

Irregular living—
due to home conditions

The Nutrition Health Class is a group of children who meet once a week to be taught right health and nutrition habits through lessons, stories, games, songs, posters, etc. This group may be composed of children, all of whom are malnourished, or of a mixed group of normal as well as malnourished children. The group may be of boys and girls together but it should be composed of children of about the same age or in the same grade at school.

The Nutrition Health Class functions to remove these causes of malnutrition:

By removal of physical defects.
By group control or group spirit.
By the creation of an ideal which each child in the group makes his own.
By utilizing two natural instincts: love of approval and rivalry—rivalry with self and group rivalry. These things help the child to win out.

In the organization and conduct of a Nutrition Health Class several individuals must function.

1. The woman who is to have charge of the class should be trained in Home Economics and especially in Nutrition. Only those who have an ability to work well with children and have a sympathetic understanding of children should attempt such a class. She must also know how to work well with adults since this work calls for co-operation and good judgment. Much harm can be done by unnecessarily alarming the parents and by unwise advice.
2. Superintendents and teachers in the schools where these classes are to be held should give their consent and advice. In co-operation with the one conducting the class they decide upon which children shall be in the class; arrange for the time and the place for holding the class; and by their attitude and co-operation lend invaluable influence to the work.
3. The parents, especially the mothers, should consent and be present at the examination of their children. It is quite necessary that the parents shall "play the game" with the children at home if the best results are to be obtained.
4. Parent-Teacher Organization—if there is such an organization, may select a committee to help with the mechanics of the class and they may lend financial and moral support.
5. Local doctors, dentists, and nurses are essential members of this group. The physical examination is most important as a basis upon which to work. This examination should be made by a competent physician, preferably the school doctor, or a local physician and dentist. If the school is in a city where there are several doctors, each one should be given an opportunity to help and a schedule worked out by which this could be arranged. Then as each child is examined, if there are any defects, refer the mother to the child's own physician. Fill out a card stating the conditions found; that the child and mother have been referred to him; and mail this card to the child's own physician. This may avoid any cornering of practice and is only "fair play."
   If possible, secure the aid of a nurse to assist in the weighing, measuring, and examination of the child.
   The lessons on health habits should be given by a nurse if one can be secured for that much time. Co-operation is the key note of success in this work—each one doing the thing for which he is best trained but also knowing his limit.

Procedure:

Definite instructions for the organization and conduct of a Nutrition Health Class and a complete bibliography may be obtained from the Home Economics Department, Extension Division, University of Illinois.

Time:

These classes should be conducted for at least six months if very definite results are to be obtained; nine months is better because in that time definite habits may be established which may be permanent.

The practices this class should establish are:

Regular habits of:
Eating, sleeping and rest, fresh air, exercise elimination.

Right dietary habits—taking of:
Milk, whole cereals, vegetables, fruits, wholesome fats.

The specific benefits which should result from the class:

1. Overcoming of the physical defects that prevent normal growth.
2. Normal growth—right weight for height of child.
3. Resistance to disease.
4. Better nerve control; better disposition.
5. Normal activity—physical and mental.
6. Increased respect for obedience.

In conclusion—This is a home as well as a school endeavor. There must be close co-operation between the group and the home if the best results are to be obtained. That means the parents have a definite share; it means home visits and getting at the child's habits from all angles because often some one insignificant thing may be preventing his gain.

The physical examination by a competent physician is an essential preliminary. Only the medically trained should attempt to diagnose. Good results can be obtained only when the exact condition is understood.

Usually a nurse is better prepared than a nutrition worker to teach health habits.

The teacher who conducts the class must know all that it involves before she starts it; must be well trained in nutrition; must have an ability to work with children and mothers and must have a big vision of the work and its possibilities.

The requirements seem difficult but the rewards are large and no type of work seems to bring any greater inspiration because this is building for the strength of future generations.

"The nation's greatest resource is not its forest reserve, not in its coal, nor in its gold, nor in its vast plains nor in the wealth of its cities.

The wealth of our country, the hope of our nation lies in its children. Our greatest responsibility is to them. The most worthy of all tasks is to make the world fit for the child and the child fit for the world."

Dr. Emerson has said, "Malnutrition does not correct itself. The school should graduate children physically as well as mentally fit."

The discussion was short owing to the time available.

Does home economics function? Does it carry over into being and living? Is it a real thing?

We make no apology for things undone, but we strive to answer the challenge to help towards better living; not as fadish followers but with a real educational program.

BERTHA CASE, *Secretary.*

## 11. MANUAL ARTS SECTION

### MORNING SESSION

The session opened at 9 A. M. in room 210 University High School, L. A. Tuggle, Danville, presiding.

C. H. Dalton, Lovington, was appointed Secretary in the absence of Miss Osborne.

After a few well chosen remarks by the chairman, papers were read by A. B. McCall, John Sharda, J. H. Hawkins, A. M. Mercker, and L. M. Cole. During the reading of these much came up for discussion, but only that which was presented in the papers is here given.

### Afternoon Session

The session opened at 2:15 P. M. in room 206 University High School, the other room being too small.

A lecture, which was made more interesting and helpful by the use of slides, upon the work being done at Mooseheart, was given by Mr. Elwood. His paper follows.

Mr. L. W. Walstrom, Chicago, told of the great work that is being done on the rehabilitation of disabled soldiers. His is a great work, as a member of the Federal Board for vocational education he has had many trying experiences and it is interesting to hear him tell of these. It is also a relief to us to know that so much is being done for these handicapped persons.

Mr. J. F. Kolb, Assistant Supervisor Illinois State Board for Vocational Education, Springfield, gave a talk.

Although it was getting late in the evening, spirited discussions were given on various subjects. Among these the more important ones were in regard to the lack of standardization in Mechanical Drawing and wood-work courses in our high schools. A committee consisting of John Sharda, West Frankfort; J. H. Hawkins, Danville; A. B. McCall, Springfield, was appointed to begin work on a report to be submitted at next meeting, setting out standards of high school mechanical drawing. Further, that the committee shall present this matter to the next state teacher's meeting. Another motion carried, and as a result, Professor Arthur J. Mays, University, was appointed to make a similar report on wood-work.

The secretary was instructed to write a letter to Professor S. J. Vaughn, expressing the appreciation of this section of his work while in this state. Professor Vaughn has been a "wheel horse" and his place will be very hard to fill.

Election of executive committee followed: Professor A. J. Mays, University; R. S. Condon, Decatur; C. H. Dalton, Lovington, being elected.

The executive committee met and organized for the next year as follows:

L. A. Tuggle, Danville, 1922, Chairman.
L. S. Wood, Bloomington, 1922.
F. F. Stables, Mt. Vernon, 1922.
R. S. Condon, Decatur, 1923.
Professor A. J. Mays, University, 1924.
C. H. Dalton, Lovington, 1923, Secretary.

# The Content and the Standardization of Mechanical Drawing in Our High Schools

John Sharda, West Frankfort, Illinois

In the time allotted me this morning, I shall ask you to join me in a survey of our Mechanical Drawing in high schools. It will be rather interesting, and some things that we observe may be quite startling.

Mechanical drawing is at the present time in a unique condition. The end we seek is very indefinite and hazy. What are we teaching it for? For practical use? For the trades? For the university? How much are students to know? And what are they to know? Shall we have one year, or two years, or three years? These, and many other questions occur to us. The present high school manual is not sufficiently definite nor specific in answering these questions. It has not changed much from a few conclusions arrived at in the year 1910.

There is no clear differentiation made between the smaller high schools that can offer it only as a part of their manual training and the larger schools that offer mechanical drawing as a separate subject.

Many of our instructors are really not sufficiently competent to teach the subject properly. All too frequently manual training and mechanical drawing occupy only a part of some teacher's daily schedule. Therefore some member of the faculty, who indicates possessing the most aptitude for these branches is delegated to be "the manual training teacher." Perhaps he never made a study of draftsmanship for himself. Yet he must now teach it. He must "make a stab at it." Alas! Far too often some sad wounds are inflicted upon our subject by such "stabs."

Curiously, there seems to be no standard satisfactory text book in mechanical drawing available at the present time. There are many texts, but they are all different. Some are all theory; others are all problems. Some consume three-fourths of their pages describing the use of instruments. Some dwell far too much on geometrical constructions. Others consume too much time in lettering; and lettering that is not commercially practicable. Where a certain text may have its topics grouped in a certain order, another has them grouped in quite the opposite order.

How in the world can we, under these conditions, have any uniformity of work or of content? How can we transfer a student from one school to another? How can the universities give us any credit for the work that we do?

From investigations that I have recently made in a survey of the situation of mechanical drawing in not only our own state, but also in the states of Ohio, Michigan, Wisconsin and Minnesota, I have had a number of striking truths called to my attention.

1. There is no uniformity of content nor of method.
2. The results sought are hazy, indefinite and curiously different.
3. There is no standard text available.
4. There is no book adopted by even a majority of the schools.
5. There is no definite standardization at all.

Shall we now pass on to a brief consideration of our subject on its merits? Drafting is the language, the medium of expression, for practically all kinds of constructive work. It is the big and only universal and international language. It expresses ideas and plans in architecture, cabinet work, civil engineering, all machinery, agricultural appliances, mining, water works, sewer systems, steam fittings, steamships, sheet metal work, costume designing, surgical instruments, implements of war and of peace.

And being the language of ideas in all these things, it is certainly fitting that any one who claims to be educated shall be, to some extent at least, familiar with this language.

When a nation is thrown into an emergency, as was ours at America's entrance into the world war, it becomes strikingly evident how important it is that her citizens be trained in *constructive* lines of work. Then all our classical subjects fall by the wayside, and the sturdy sons of old mother *"construction"* must bear the load behind which a nation must march to victory. And from this it also becomes strikingly evident to us how very important is the subject of draftsmanship. Here is a subject that is splendid in its bigness, yet we haven't had the vision to see its bigness.

Now if the Manual Arts in our schools are to grow; if they shall function as they ought to do; and if they are really to come into their own, we teachers must be big enough professionally to see the big need of the hour. Moreover we must be big enough to attack the task of organizing into a splendid ally a giant which now lies fettered with chaos.

There is no use in theorizing. We want something definite. What shall we do with the subject? What shall we teach? How much shall we teach? What book shall we use? What standards shall we have? What shall be done by that school that can have Mechanical Drawing only in connection with its shop work? And what shall be done by that school which offers it separately?

We find plenty of evidence that bears out the belief that mechanical drawing has not as yet found itself and definitely established its rightful claim of being without doubt one of the greatest cultural subjects in the curriculum. When properly taught, mechanical drawing is preeminent in developing the constructive imagination, the ability to think in three dimensions, and to visualize clearly and accurately. This is an ability which every citizen should have, but which unfortunately is possessed by but a very few.

We must all understand clearly that a drawing course is not simply to make a draftsman, it is not simply to obtain college credit, it is not simply to learn how to represent an object to be made in the shops, nor is it simply to learn to read blueprints. However desirable these things may be in themselves, no one of them nor even all of them can be taken as the main purpose of mechanical drawing as an educational study. They are some of the visible and directly valuable results of such a study. The main and highest purpose of a course in mechanical drawing is to train the pupil in the greatest of all languages, the graphic language.

Now when we set about the task of organizing our courses, planning their content and the methods of instruction, we must keep a proper conception of this previously mentioned high meaning of our subject constantly in mind. And with this as our guiding thought, we must provide, furthermore, for four things:

1. Those students who take mechanical drawing only as part of their first year shop work.
2. Those students who never go to college and who often become tradesmen.
3. Those who continue their work along scientific lines in college or university.
4. A standard of *kind* and *quality* that can be recognized and accepted by our higher institutions.

To this end I would make the following suggestions:

1. For Drawing given in connection with 1st year woodwork.
   72 double periods devoted to subject. Lectures and demonstrations by teacher.
   25 Plates as a minimum.
   Orthographic Projections and Working Drawings 60%
   Cabinet Views and Isometric Views 40%

Standard of skill to be attained: The ability to manipulate tools correctly and rapidly, to letter neatly, and to draw neatly the orthographic projections, the working drawings, and the cabinet or isometric views of any article made in the first two years of ordinary shop woodwork.

2. For Regular Mechanical Drawing.

1st year.

Content:

Lectures and demonstrations by instructor
Minimum of 30 plates
Work to cover
Orthographic projections
Cabinet and isometric views
Perspective sketching
Proper lettering
Proper placing and spacing views
Proper dimensioning
Both wood and iron work

Standards to be attained:

a. Satisfactory technique
b. Satisfactory lettering
c. A sound understanding of the general fundamentals of the work in drafting

2nd. year.

Content:

Surface development
Intersecting solids
Complete drawings of cabinet work
Machine drawing, gears, screws, etc.
A taste of architectural drawing
30 plates

Standards:

More advanced technique
More "finish" in lettering
Advanced ability to *express* above, clearly and rapidly

3rd. year.

Content:

Architectural Drawing
30 plates
or
Advanced Drawing and Design
30 plates

From our survey of the situation thus far, it becomes very clear that we sorely need a uniformity of content in our mechanical drawing courses, and certain well defined standards of work. I have tried to get you to a vision of true dignity and grandeur of the subject. And I now wish to leave with you a plea to see the need of the hour: to get in under this task that lies before us.

## The Mechanical Drawing Instructor and the Industries

A. B. McCall, Springfield, Illinois

The mechanical drawing instructor has an excellent chance to make his mark in the field of education and industry. His work can and should be a happy co-ordination of both. His duties are educational and his work lies in a field that is truly the first step beyond the mental stage of mechanical and industrial progress.

He is a connecting link in the chain of industry. He is the link between the amateur and professional draftsman.

Most of the visible evidences of advancement in industry originate in the architect or engineer who was once a mechanical drawing student.

The mechanical drawing instructor is in a position to be one of the big men if he has the stuff in him that makes the men who do things. Opportunities to make good are constantly coming into his environment. He can see them and grasp them if he is the man who knows how to recognize them and how to value them.

Mechanical drawing teaching is a part of industry. The instructor must know the ways of industry. He must be a practical man and know the technique of his work so well that it is second nature to him. He must know the technique of art from the viewpoint of its practical application.

The instructor in this subject who would be a live wire in his business will make it a point to keep in touch with principles and methods of industry. If he is a wide-awake man, he will doubtless have the friendship and support of at least local industries.

If he is a man worth his school salary in the industries, he can be worth more to society as an instructor, although he may not be able to get it.

The industries are always on the lookout for men who are trained and experienced in directing activities of groups of workmen. Industry also needs men who know how to take the attitude that successful workmen should take, as well as the attitude that it takes to make a successful mechanical drawing instructor.

The subject of mechanical drawing is one in which the efficiency of the instructor may be concrete and visibly evident in the work of the student. This is not always the case but is usually so.

The mechanical drawing instructor who would push to the front in his work will be a man of ideas. He will be able to look ahead of his daily work into the future, as he grasps the vision of his wonderful opportunity for service in connection with his responsibility in the class room. In the meantime, he will be mindful of the technical training of his students.

He will bear in mind at all times, in the class room, that the beginning student is awkward with the drawing instruments and must be trained to use them technically correct before good work can be accomplished.

He will remember that some of the best engineers do what drafting they do only with a pencil, and that the best draftsman is not always the best engineer, nor is the best engineer always the best draftsman; but that it takes brains and practice, with good, technical guidance, to be either successfully.

The student of mechanical drawing who makes good will learn to make neat letters, figures and arrowheads. He will learn the various technical ways of blending arcs and curves; he will understand how to apply his knowledge of descriptive geometry to the representations of machines, etc. He will learn to get from one view dimensions which are necessary for the drawing of another view, and that to be able to draw machines to scale is useful only to those who would know something about the machine's construction; and he must be able to do something more than merely copy to scale.

The instructor of mechanical drawing has a chance to be a man with a big idea, who can make it count for something. He knows that there are certain fundamental principles, which, when once thoroughly mastered, can be utilized in most any line of business; and he studies to grasp those principles from the lives and actions of leaders in education and industry. He gives his students the advantage of his observations and ideas, and helps them to try to find themselves.

When he attempts to study the habits and characteristics of men who are doing things in the world of busy men, he can usually find something particularly evident, that is, a determining factor in making the difference between the big man, the man of big ideas in his line of work, and the man of ordinary efficiency.

A man, young or old, without a compelling, convincing, consuming, big idea is destined to failure in his line of service.

The observing man, who is also a thinker, can get a world of ideas from his daily observations and experiences that will be a wonderful help to him, if he would record and use them when the occasion demands.

It is a fact that events are only the shells of ideas, and the thinking observer is constantly finding ideas everywhere, in newspapers, books, sermons, music, art and his experiences.

The progressive man who is making his mark in his work, is the man who discovers ideas and knows how to put them to work.

An idea is a throttle of action or a dreamer's dream, according to who has it.

This is the time when men of big ideas are worth more to the world of industry and education than they ever were before. The world is showing an increasing need of men who have originality, personality, brains and pep, with a big idea to throttle their efforts.

The big men still get big pay and will always get it. The little fellow still gets small pay and the men who render service to society will always get a remuneration commensurate with the value of services rendered. This will be especially true when conditions will permit human values to reach their respective levels. The past few years have seen conditions in our country that have put an abnormal rating upon the value of human services as rendered in industry. The world of industry and education pays little returns for little service.

When we try to size up the men who are the leaders in the world about us, we will always notice that they are men who once looked into the future and discovered that success is not a secret but an open reward for preparation and a high quality of salesmanship.

It is an interesting fact that when a $10,000 man is wanted by a big employer, this man is usually found already employed.

The stories of experiences of great men in the field of education and industry, who have started with little or no help, are so numerous and so fascinating that some of the big fellows who started with wealth at their disposal, rather hate to admit it these days.

There has been a tendency in the past to make exhibitions of mechanical drawing work of a spectacular nature, but this is a subject that should give the major attention to technique and the fundamental elements of engineering, and then let the public judge the merits of work exhibited, from that standpoint.

The mechanical drawing instructor is just beginning to mold and direct the habits of the future engineers. He sees in certain students the future men who can, and will. He teaches students how to develop the habit of visualizing; a habit that is absolutely essential to the successful designer in the field of engineering. The instructor in this subject is in a position to discover the brains of the future industries, as he studies the aptitudes and bents of his students.

He will be quick to see in a student, the elements of success in industry, business or professional life; but he will be wise and not be too hasty about trying to guide the student into certain special lines of work before he has

carefully studied and analyzed the influences that seem to be holding the student's interest for the future. The limitations of some students, either physical or mental, would make them fall short of success in some lines of work that they might think they are interested in, and the wise instructor will be aware of that fact in offering advice to students.

The mechanical drawing instructor has the students before and not after they have made good in the world of industry, and if he is a big man, with the big heart, with a big idea, he will turn out students who will have a wholesome view of industry, when they go into it. He will teach them to recognize the little points of merit that distinguishes the man who leads from the man who follows; and these students will all be better and more worthy men because of having once been students under the direction of a man who could successfully guide the talents of men from the mental field of visualization into the broad and busy field of industry.

## The Standardizing of Mechanical Drawing

J. H. Hawkins, Danville

In modern educational doctrine Mechanical Drawing occupies an intermediate field between vocational and liberal education. This subject, in the minds of many, was designed to contribute to vocational efficiency. Because Mechanical Drawing as taught in most high schools is too elementary to be of much practical benefit, I believe that it does not do as much in a vocational way as it should. In fact I have had this charge made to me by draftsmen in the drafting room and I am inclined to believe that it is true.

The spirit of approach has been that of the amateur rather than that of a person interested in attaining vocational efficiency. The boy who is compelled to leave school to go to work has found either that he does not know much about Mechanical Drawing or that he is compelled to unlearn a great deal of it that he learned in the school room. I think we should try to teach drawing as nearly like the drawing of the drafting room as possible, so that if the boy is ever compelled to take up drafting to earn a living he can occupy a responsible position from the beginning.

Now I do not mean that we are to try to make a draftsman or a designer out of every boy that comes to us, because it cannot be done any more than you can make a chemist out of every boy who takes chemistry or a historian out of every boy who takes history. But we can give them the facts. I mean facts that can be used in one way or another, whether they give the boy a better sense of appreciation of some one else's efforts or serve to stimulate him to bigger things. In my judgment to make a subject practical in no way destroys its cultural value or its value in an appreciative way.

I believe we drawing teachers are beginning to realize that there is something wrong with Mechanical Drawing. We are realizing that the subject as it is now taught is not playing the part that it should. Consequently there is the demand for a more uniform and standardized course of study. Besides having a technical education one should get a job during the summer in a factory and study their method. Ask the workmen for some of the secrets that only the craftsman knows. Teachers of drawing, get a job in a shop or drafting room and see how practical drawings are made. Buy machine shop hand books, books that are actually used by draftsmen and designers. Get blue prints from factories, study them and see if you can work out a more practical course in drawing.

Second, teach as though each student were a potential draftsman, designer, carpenter or cabinet maker. Teach from the technical rather than from the expressional side. The expressional and cultural sides of the question will take

care of themselves. I firmly believe that in a good many instances the theoretical knowledge and acquirements gained in school have little significance for life and in many instances weaken in the pupils the taste for practical pursuits. I also believe that the moment the student feels that he is getting something he can use the biggest problem is solved.

Still a third way to standardize drawing is to get one or two good handbooks, such as the American Machinists' Hand-Book or Machinery's Handbook and follow directions for drawing such objects as pulleys, band wheels, gears, cams, bolts, bearings, shaft hangers, keys, clutches, and the like. These have been standardized by engineers and it is certain if the boy learns to make drawings of such standardized parts, he can use this information in future work. If it is a question of getting the lines standardized, I rule the lines upon a piece of drawing paper and then cut these into small squares; so when the boy begins inking in he tries his pen upon the outside of the border line, lays his small card down beside the line, and, if the two are the same size, he inks in. In a very short time he has learned to judge the sizes of lines quite accurately.

I have spent several summers in shops and factories, and every case where I had to learn to operate a new machine a workman was sent to teach me, who very seldom spent more than two or three hours with me. He would go through the various processes and operations two or three times, then turn it over to me, usually saying "That's all there is to it." So far as I could see not one process was given that was not needed. I had to use every bit of knowledge that was given to me. True I learned more about the processes, but the moment I had learned how to run the machine efficiently it ceased to become educative. Personally I have always taught as though each student were preparing himself for a trade. I try to make my course as practical as I can. Let us look at a course of study. Can it be standardized? Should it be standardized?

We all believe the needs of the community determine what should be taught. It is clear that a manufacturing center should have a stronger course in mechanical drawing than the rural districts. However, I would not neglect to give as good a course as time and circumstances would permit in the rural and small town schools. Since the boy is associated more or less with furniture, farm machinery, tractors, or automobiles, he should be given a course in which furniture, pieces of farm machinery, tractors or automobiles are given. Perhaps one or two years may be sufficient training to put the average boy into the position of knowing what he wants to do. The question of time would be worked out as local conditions would permit.

I believe that simple objects should be given first to be penciled in only. Neatness and accuracy should be emphasized to such an extent that the drawing stands out clear cut in all details. When the student has acquired the ability to make a good drawing he should make his drawing upon a good quality of tracing paper such as vellum. This practice is being carried on in the manufacture of automobiles because of the models being changed every year. If the lines are well penciled and clear cut a good blue print can be gotten.

When the boy has had experience in penciling he should then begin to ink in, after which he should make tracings on tracing cloth. I have found that if a boy has had sufficient work in inking in on paper he does not have any trouble in so doing on cloth.

Printing should be given a little at a time, say one-fourth of a nine by twelve sheet or one-fourth of an eleven by fifteen sheet and only a few lines at a time. I try to give one printing lesson a week. In my experience in making shop drawings I do not recollect seeing any other than the slanted Gothic letters. However, if time will permit, other forms may be used, as it is splendid practice and relieves the monotony of making only one kind of lettering.

I have not said anything about the use of freehand drawing in the mechanical drawing course. Very frequently the draftsman is called upon to go into the

shop and make a freehand sketch of some broken piece of machinery. In my judgment some freehand sketching should be given. In smaller districts enough should be given to enable the student to make at least a rough sketch of a broken piece of machinery or a simple building plan.

In conclusion I believe that one should have plenty of material with which to work. Give the boy plenty of projects to draw. He learns to draw by drawing.

## The Shop Teacher at Work

### A. M. Mercker, Quincy, Illinois

It is my intention during the course of this paper to deal with my subject in a rather broad and general way. I intend to take into account the teacher in an environment such as is offered by the average high school and have him at work fully aware of the atmosphere which should envelope such a school. In referring to the shop teacher, I shall center my points, in most cases, upon the wood shop; but all activities of the average Manual Training Department might be subjected to a similar discussion.

Before our shop teacher enters upon his work we expect a training of a very liberal kind. We assume as a student he had a turn of mind which recognized practical values in his early school studies, and was by nature so constituted as to arise to a certain material response in his learning. These of course are the first evidences of a potential teacher of Manual Training.

The later and higher training of this type of student is more easily overemphasized on the practical side than on the purely professional. Teaching knowledge and methods should be reduced to a habit to the same degree in which we try to reduce motor activities to a habit. The ability of the shop teacher to easily meet problems of construction, tool processes, in operating machines, and in selecting and using supplies, is acquired best, of course, by experience with these things. The teacher who has met these things as instruments of production as well as instruments of education is better able to see in these cold materials a broader application. This man will naturally emphasize upon a different point; and recognize the non-essentials as such. Whereas, the shop teacher not so experienced will very likely emphasize in a stacatto fashion, hitting upon non-essentials and essentials alike.

As I know conditions, the general opinion seems to be, that a high school teacher should have four years of higher education. To teach pupils of high school age and to properly handle the subject matter, require this. Then if we are measuring the relative merits of our shopwork with other branches of the curriculum, are we not a bit embarrassed at the start if the man in the shop has less training? Either we must admit that our subject is of a lower type or the boys taking the work are of the mentally inferior kind. Or, possibly, less is expected of the work. Possibly the teacher can substitute trade training for college or university training to make up a deficit. I should have our shop teacher fully aware of these points, and at work to remove any short-comings; never to concede to a lower relative standard, and not accept too much credit for trade training.

We have claimed a great deal for ourselves on the basis of our teacher of wide trade experience. We have had enough contact with this particular type to become just a bit cautious as to the preference. Is trade knowledge of more value to the teacher than professional knowledge? A good combination may produce an ideal; but, taking for granted, of course, that our teacher has received training for teaching shop work; I should hesitate to give preference to trade knowledge at the expense of teaching knowledge in his make-up. Laying aside all professional pride, I don't think one of us would consider as a compliment to our profession if someone should come into our field from the trades

and claim superior qualities as a teacher because of his trade experience. As a teacher of Manual Training in our average high school, I never hesitate to discount liberally in checking the merits of my own trade experience.

The tendency of any teacher is to teach as he was taught. Unless this has been thoroughly undone by the training, which the teacher received for teaching, it will surely be the basis of his teaching. I should not hope for much from our future shop teacher, should he be a product of some of our shops of today, unless by some good luck he became an exception to the rule. The shortage of teachers has brought this teacher into our shop. For the best interests of our boys, this teacher must receive higher training at once.

If you should view a collection of articles produced by a class under one particular teacher, you could notice that there was a variety or there was no variety. The lack of variety may be attributed to several sources, of course, such as lack of materials, restrictions because of facilities, etc., but, you will certainly see whether the collection has been produced under a teacher who is narrowed by a particular fancy. The instructor's fancy for a particular design, a particular finish; for details such as carving or inlaying, or for a particular project too often dominates every student in his charge. Of course, we have the "coat hanger" and the "tie rack" fancy, but these would come under the "teach as you were taught" type. Or, possibly, they may be recognized as an old fancy of the Manual Training Department. The teacher who is "at work" is bigger than any of his fancies or the traditional fancies of the department.

When our shop teacher opens shop no course, no plan, no particular sequence must be allowed to be a restriction in any way. Whether the project is a fly trap or motor boat, a floor lamp or a dog house, should make absolutely no difference so far as making the work worth while is concerned. No tradition, no old ideas of tool processes and sequence of exercises should be considered indispensable by the shop teacher. No pupil should be kept from doing wood turning or architectural drawing just because he is not a senior. Variety, life, activity, industry, enthusiasm, something to take home, something learned, some surprises, all these are a part of the rounds of the shop in charge of a shop teacher really at work. Work for every one, everyone at work, system, plans, a teacher as big as the sum of all the class, every dimension in mind, awake, ready to direct a detail instantly at a distance, all are contagious. Why not take advantage of the fact? Have a way of doing things, a type of construction, a set of exercises and then plenty of other ways, methods, exercises, and interests. The individual interests and experiences of the pupil demand a most liberal display of every virtue on the part of a good shop instructor.

We have heard a great deal about having the teacher follow the activities and interests of the individual rather than teach. Without attempting to draw any particular conclusions, I should like to consider a few points in this connection. First, it seems to me, the idea of following the pupil or allowing him to direct his own activities, as we say, has afforded a very good excuse for the less industrious shop teacher to do very little. To have action in the shop does not convince a good shop teacher that something is being done. We know of the shop man who feels complimented when a visiting principal or academic teacher—upon beholding such industry—gasps and says "fine." This same visitor may have poured out upon these boys until they ceased to be stirred; thoroughly fortified for any sort of an attack, and here they are seemingly really doing something without being told at every step. The thing is so different that to them only action stands out. Everyone is doing. Half of the class may be *doing* nothing and the other half doing something but without any particular objective. A fine chance open, indeed, for a shop teacher to hide behind this ignorance and allow his boys to just saw wood and drive screws. Have you seen a condition of this sort?

I once had a ninth grade boy work out a Trophy Case. I gave him some idea of how it might be designed then turned the whole matter over to him for

design and construction. In fact, I gave the matter very little attention even in a general way. This boy was particularly well suited for my experiment in that he read and studied a great deal at his leisure. He would work on a problem to some sort of conclusion without asking for help from his teacher or other pupils. As the project began to take form, I could see revealed there ideas which he had gleaned from sources of his own finding. He completed the job in every detail. As the piece of work stood on exhibit, I talked over the particular problem with the boy's mother and upon telling her of how I had drawn upon the boy's self efforts in the solution of his problem, she remarked, "Don't you think he was just a bit young for that?" I frankly admitted that I thought so, without any apologies for having experimented with her boy. I could see that she was delighted to have had him equal to the task and I was satisfied with my results, so I accepted the remainder as my own lesson.

In drawing conclusions from this, I should say that it remained a question with me whether it was a better plan to have allowed that boy to plod away exercising his own initiative or whether I should have taught him a plan. This boy was too young in experience. Initiative has very little force in a mind of no previous like experiences. It seems to me that only the boy of unusual ability can direct his own efforts, while the majority need to be taught. A careful check on self directed shop teaching in the average high school will very likely reveal the fact that about 50 percent of the class are not directing themselves toward any particular objective, at best they are merely drifting. The rest may have an objective but no plan. This method results in waste of time and materials, and in the end nothing is accomplished.

Class instructions and written work required from every member of the class still have a place in the shop course. This may be a relic of the class room but I hope we haven't gotten entirely away from school with our shop work. At times the shop class needs to be instructed as a class. Class reports and class recitations weld together the shop interests in such a way as to give each boy the benefit of the other boy's work, and help to fix shop terms. There is a language of the shop which needs to be dignified. Because of the varied individual interests, class recitation work brings together the outside experiences of the boys in a way to encourage a community interest.

When a student has once started a project he should finish it. If a pupil loses interest in his project, the blame can usually rightly rest on the teacher. He should be a good judge in this matter. This seems to me a most vital point in the success of a class. This teacher should never permit a boy to get away from him in the choosing of a project. The shop project is a joint project with the boy's purpose on the one hand, the teacher's on the other. It is a project with the student because he wants it for some particular use and is a project with the teacher because he sees that he can make use of it in conveying the knowledge for which the course is intended.

So long as our shop remains a school shop, the teacher's first consideration must be to give knowledge. Production work, as a lesson in quantity production, may be tolerated; but we must be careful lest this be overdone. When a production job comes into the shop, try to find an excuse for it other than producing the articles. If such cannot be had, throw it out. It becomes a job for labor. To take it would be exploitation. If your boys have enrolled with you for advanced cabinet making, for example, they should refuse to spend half of the semester making Potato Crates. A project constructed for the sake of the project itself should not be allowed school time. We do not care to admit that our shops are for producing articles. Of course, it is necessary to produce something, but I should think my work most successful should the boy carry home a usable article feeling that the best of it is carried away in the memory of his experiences and in the way of knowledge which he acquired in its construction. Also, I should have him appreciate the value of the article as measured by the cost of materials and his labor in its construction. Working with other boys he should be convinced of his relative efficiency.

Possibly, the chief difficulty with the average shop teacher is that he fails to see how his work is constantly offering fine opportunities for emphasizing some of the fundamental branches. Any project under construction might be so enveloped in an atmosphere of related information that it would become the incidental rather than the primary object of the work. When there is any chance for correlation the teacher must assign himself the job of seeing it done. It seems to me that the teacher is entirely justified in taking out shop time for teaching mathematics, geography, design or composition. This should not be turned over to some other teacher when the particular matter is needed in the shop work, lest the point be lost. The shop teacher should be better able to carry out the scheme than anyone else. Do the entire job, and I am quite sure that your influence upon arousing interest in the related subjects will be quite noticeable. When a problem in machine design opens up a problem in shop trigonometry, do not pass it up because the class tells you that they have had the related work; but take the problem through. You may discover the fact that they have forgotten—if they ever knew—how to do a real problem in applied mathematics. You can feel quite sure that they will remember something about it, having been put to a real practical test. The boys may be surprised to learn that the shop teacher possesses a knowledge of algebra or that he recognizes a misspelled word in a written report. This alone would be doing our profession a world of credit. Look for problems and see them through personally.

Finally the shop teacher must be looking about for some way to measure his work up to a standard. It is true we have no standard. We are not narrowed by such, so let's not become narrow because we have nothing to keep us broad. It is true we have standards of vocational work established by our State Vocational Board. We feel right when our teacher training, equipment and methods of teaching meet the requirements of the State Board. Then if the same instructor teaches the same subject in the way to a class of high school boys, for which he would receive reimbursement for a trade or evening class, he might feel that he is measuring up to a good standard. This may be a good point. But, I am sure you will agree that the teacher in our average accredited high shool has a much broader field to consider.

Possibly, the shop teacher's best standard can be gathered from his own teaching. Why not carry a complete record of your own experiences with boys in the execution of their work? After a very few years in the same line of work, you can have a world of information gleaned from the actual shop records of your boys. Compile these in your own way and set up a standard. Does the average shop teacher know at the close of the year exactly what his boys did? If he does not, he has missed a fine chance to gather material to be used toward establishing a standard. If this is supplemented by comparison with work done in different centers, a very reliable standard can be set up.

## Some Fundamentals

### By L. M. Cole, Jas. Millikin University, Decatur, Illinois

Under the above caption I shall attempt to call your attention to phases of Manual Arts Education that seem to me of vital importance, and which, incident to the swing of the educational pendulum towards "Vocational and Industrial Training" seem to have been in recent years much obscured by these two.

These two phases will be presented under the following subjects in the order given,—"The Sense of Touch in Elementary Education," and "The Importance of Trade Technique in Beginning Tool Work."

I am offering these two subjects in one paper for the following reasons. Both apply particularly to the field of elementary education. Both are vitally important; and both are under a partial eclipse that appeals to my judgment as

inimical to the best interests of education in general and of industrial education in particular. Also a presentation of either phase by itself would tend towards minimizing the importance of the other.

1. The Sense of Touch in Elementary Education.

By the "Sense of Touch" I mean to include all the stimuli that come to the child through the functioning of the sensory and motor nerves, or in other terms those impressions that result from a physical contact with material things.

Experience and observations have raised in my mind some questions regarding elementary education as it is generally administered in the public schools of to-day: Does the child really get those vitamines of elementary mental growth and development in the school room and out of books or does he get them through his physical activities? Does he get his real education during school hours or play hours? Is our elementary educational system (generally speaking) planned to meet the largest needs of the child, or is it planned primarily as a somewhat insignificant cog in a piece of well-oiled machinery that will operate fairly well and at the same time will not too much disturb us in our lofty aspirations in the field of higher education?

The conclusive answers to these and other similar questions are probably far afield; however it appears that educators quite largely, regard elementary education as only the beginning, and consider it of minor importance as compared to what might be considered the real education, which comes later, in the upper grades, in the high school, and in college.

Let us not lose sight of this most significant educational truth; If we wish to touch the lives of the greatest number of children in the public schools we must do it during the first six grades, for 88.6% of all pupils are enrolled in the grades. Childhood is the plastic, the impressionable age; but this plasticity functions far more in the things the child does with his hands, through his sense of touch, than through his eyes and ears. He often gets cheap amusement and sensational satiety through his eyes and ears, but never through his hands. Even while he tears the alarm clock "limb from limb" and tries to put the wheels back in place, he is acquiring skill in his fingers, developing co-ordination of mind and muscles, and learning something of the immutable laws of the material world through the sense of touch. It is a starvation education that concerns itself only with the senses of sight and hearing. We eulogize our "happy school days" in song and story, in rhyme and prose; but "Who to dumb forgetfulness a prey" would say that his greatest childhood joys came from the things he saw and heard and not from the things he did? Whittier's poem—The "Barefoot Boy" from its first couplet:—

"Blessings on thee little man,
Barefoot boy with cheeck of tan"—to its last:
"Ah; that thou couldst know thy joy,
Ere it passes, barefoot boy," with its story of the wealth of boyhood's interesting activities, makes no mention of school. Even in his "School Days" he says:

"The door's worn sill betraying,
The feet that creeping slow to school,
Went storming out to playing."

Our educational system is top heavy, with intensity and weight of organization at the top instead of the foundation; our lack of public kindergartens plainly supports this assertion. All educational roads lead through the high school to the university, with too little recognition of the fact that not all children who get on board the school train have through tickets. Many of the destinations are the way stations of financial needs that may call for disembarkation before even the eighth grade is passed.

Taken throughout the whole United States, only about 25% of the public school pupils finish the grades. The number who finish the high school is only

9.3% for the whole country. These with the 2.1 percent who enter college make up, as far as numbers are concerned, a very small proportion of the public school enrollment. The value of a university education, as a general proposition is conceded without question; but the worth to society, of the average university course compared to a grade school education might be a subject worth thinking about, in relation to the apportionment of funds, improvement in curriculum and methods of teaching.

Practically every child of school age is enrolled in public or private schools through the first six grades, and it is during this period that they are entitled to the best and most complete sort of education society can furnish.

Mental growth is gained almost entirely through the medium of three senses:—touch, sight and hearing. At the present time all too little importance is attached to the first member of this educational trinity, the sense of touch, so far as elementary education is concerned. This "sense of touch" is no stranger to the educational world. It has been an honored member of the pedagogical family in the United States since about the year 1880 when it was introduced in St. Louis by Dr. C. M. Woodward.

It usually effects an entrance into the school system in the seventh and eighth grades and in the junior high school. A comparatively few schools extend the work into the grades comprehended in my subject. It has fully proved its worth in the field above mentioned; which, gives us the hope, and maybe the assurance that the time is close at hand when the lower grade school boy and girl everywhere will be given an opportunity to hitch up the sense of "touch" along with the other two commonly accepted educational senses.

The sense of touch is the most important of all the so-called senses. It is the one sense that is vital to animated existence. It was the first one of the so called senses to manifest itself in the process of the evolution of animal life. It is the sense by which we verify or disprove the impressions that come to us through the sense of sight and to considerable extent that of hearing. It is the verifying sense. We are never satisfied in the presence of any new material object until we have manipulated it through with this inquisitive sense. This instinct is common to all ages and to all races, without regard to the degree of savagery or enlightenment. Human progress and achievement find themselves crystallized in work of the hands. Intricate and massive machinery, ships and powerful locomotives that carry the commerce of the world, great bridges, beautiful architecture, the telescope, the microscope and the myriads upon myriads of other mechanical achievments are only possible through the exercise of the sense of touch expressed in terms of skill and applied to the materials of nature in accordance with the never-changing laws laid down by the Creator of the universe.

In the material world we find the only definite, tangible, concrete application of these laws. And the great truth that everything in the material world obeys absolutely and eternally the laws that we can reduce to a definiteness that the human mind can conceive and understand, leads us to the conclusion that in the less tangible realms of moral and mental philosophy there are laws no less definite that only await for their isolation the perception of minds more keenly developed than our own.

Humanity has groped its way out from oblivion, by contact with the physical laws of nature, to a conception of God and immortality. The child must experience the whole history of the human race, he is instinctively groping his way through tangible material things as did humanity before him. That "There are sermons in stones" is more than a figure of speech. There may be sermons in the marbles that the boy fondles in his pocket while he tries to study his sight lessons. So let us afford him in his savage and primitive state all that a study of his instincts and tendencies suggest as effective.

The one most fundamentally interesting phenomenon in life is that of growth, interesting to young and old; more-over this is always a legitmate interest and is rarely, if ever, over stimulated. The reason that the child finds the ordinary school subjects uninteresting, is that he feels little, if any, growth in them; he has little opportunity to discover or make use of new power units, for the reason already mentioned, that they do not function immediately and connectedly. In his efforts involving the sense of touch both his interest and his attention are automatically stimulated, his mind and hand are both logically active, each keeps the other busy. A school curriculum that includes a fair content of hand work contains not only a legitimate element of interest, but is a nucleus from which lines of interest may be made to radiate to other activities both in and out of school.

Missionaries working among savages have found the teaching of simple mechanical operations of the utmost value because of the elementary standards of measurements involved. A savage is a savage partly because he has no standards, no ideals. The conception of a fixed unchangeable standard of measurement affords a foundation on which to build other and more ethical standards and ideals. It is amazing how in every department of life we are tied up to standards, how we are hedged in on all sides by the social, religious or business cliques in which we move.

The small child is a savage or would be were it not for the restraining forces that surround him and hold him in check, and like the missionaries we may employ simple mechanical and material standards to instill in his mind the respect for these standards that he learns he cannot violate with impunity and so aid in bringing him to a respect for all standards and ideals. Robert Ingersoll once said; "The greatest triumph of the human intellect is the creation of a just God." If he had used the word conception instead of "creation" we should no doubt agree with him. To paraphrase Ingersoll's epigram we might say that the creation of standard units of measurements is another mighty triumph of the human intellect; without such standards the greatest architects, engineers and designers would be impotent. Without the unit by which to translate ideas into wood and iron and stone the design could never get beyond the brain of the designer. Rob plans and blue prints of their standard unit and the workmen might as well try to build a Brooklyn bridge from an artist's sketch. In the matter of time nature has supplied our standards ready made, that will no doubt stand as long as we shall need to measure time, with all due respect to Einstein's theory of relativity.

The small boy who for the first time discovers that there is a unit of measurement called an inch and that it is exactly the distance between a certain two marks on his ruler and not a tiny bit more or less, and that he can use this inch to help create and test out some of his most interesting activities, has not only made considerable progress along the road to Parnassus, but he has paved the way for other standards by which he must measure his relationship to God and man.

In closing this phase of my subject permit me to say that I have not essayed anything historical, nor have introduced much in the way of outside evidence, but I have endeavored to get across some of the reasons why the sense of touch should stand up shoulder to shoulder with the senses of sight and hearing in elementary education; why a type of education that has already proven its worth should be universally employed during that period of the child's education when it will accomplish the greatest results.

2. The Place of Trade Technique in Beginning Tool Work.

Coming to the second part of my paper,—"The place of trade technique in beginning tool work,"—I wish to present a phase of manual arts education that may seem at first glance to be somewhat at variance with what I have said regarding the "sense of touch," until it is recalled that the foregoing refers

to the lower elementary grades, probably the first five, whose hand work may include few if any tool processes while what follows pertains to the forms of hand work that involve the tools of the mechanic.

Figuratively speaking, I should like to "nail," "screw," "glue," and "clamp" onto the consciousness of every teacher and supervisor in the field of Industrial Education, this idea which I regard as axiomatic:—A boy should be allowed to use a tool, or perform a mechanical operation, only as he is taught and trained in accordance with the best methods of the skilled mechanic.

I am well aware that there is nothing new or novel in this principle or idea; in fact some of us may scarcely remember its existence, or if it still rides our memory it may occupy the saddle with such old "saws" as "Honesty is the best policy," or "To be good is to be happy," etc. However, my earnest conviction is expressed by the following:—No parent, no school board, no superintendent, no supervisor of industrial education, has any right to require or allow a boy to waste some of the precious hours of his school days, playing with tools and materials. If his manual training means haphazard misguided or unguided efforts with little aim and less accomplishment, he had better spend his time with the "three R's." School life is too short and school time too golden to spend it "puttering and tinkering."

But perhaps some one raises the point that not all or maybe none of the boys in a given class will ever follow mechanical vocations. This may be true but the probability is strong that some of them will turn out mechanics. Surely no one would offer the suggestion that tool work will be any less effective from the viewpoint of purely educational results because a boy is taught good mechanical technique. To my mind this position is unassailable,—a boy who is taught to use tools at all has a right to learn their use in such a way as to lay the foundation for a trade if later in life the desire or necessity arises. I regard it as educationally criminal to allow a boy to spend school time playing with tools and materials. If he plays with tools at all let him do it at home or during play time and not during time when he is expected to acquire education. I have never known a boy whose interest in tools and tool work could not be better sustained by a close adherence to definite standards of operations and results rather than by a free and easy system that fosters little in the line of good technique or good workmanship. If we put tools into the hands of the boy let us at least give him the opportunity to learn their use in accordance with the practice of real mechanics.

The public schools can rarely if ever train boys up to the mechanic stage because the time that can be devoted to this one subject is necessarily too short for the development of any considerable degree of skill, such as the real mechanic must possess; but this much a school can and should do, with properly qualified teachers,—lay a foundation of tool technique and mechanical practice that will at least leave nothing to unlearn if later the boy must needs continue some of his school mechanics on into the journeyman stage.

Must the Manual Arts teacher necessarily be a practical mechanic in order to be a good instructor in shop courses? My answer would be no. Many first class shop instructors are not skilled mechanics. Of course the individual who can qualify both as a teacher and a mechanic makes the ideal shop instructor; but this combination is rare. It is far more important that he shall be able to make the boy into a mechanic than to be one himself. Few skilled mechanics are good shop instructors, for the reason that they lack almost entirely the conscious knowledge of the manipulative details involved in tool processes and methods of construction. The properly trained teacher of Manual Arts must have acquired as an absolutely necessary part of his pedagogical equipment this "conscious knowledge" of the technical content of the subject that he teaches. If he can add to this the skill of the craftsman so much the better, but let this fact be not forgotten nor minimized, that we cannot teach skill. Skill must be acquired by the process of long time practice; but we can teach methods and processes, and the teacher who knows his "stuff" from this standpoint and gets it across

to his students has the "makings" of a good instructor whether or not he can hit a nail twice in succession.

In conclusion allow me to sum up in a single sentence the gist of what I have been trying to say in this paper. Every child who lives through the elementary school age has the right to the best brand of formative influences that can come through the three educational senses,—touch, sight and hearing; also he has the same right to the kind of training in his applied "touch," education that will offer him the most lasting results in terms of real efficiency.

## Vocational Training at Mooseheart

### F. G. Elwood, Mooseheart School

The Mooseheart School is founded on the principle that every child is entitled to at least a high school education and a trade. Vocational training at Mooseheart is divided into the two stages, Prevocational and Vocational, and it is my purpose to explain here how these two stages of industrial training are carried out.

Prevocational training is given in Agriculture, consisting of garden, greenhouse, and nursery work; painting and decorating, elementary woodwork, bench machine shop practice, sheet metal work, ornamental concrete work, show card writing, sign painting, auto mechanics and mechanical and architectural drafting. During the prevocational or "try out" period, the student is given an elementary course of instruction in each and every trade.

Starting with the fifth grade, every boy is assigned to some shop subject daily and his assignment in most cases is changed every three months, except in the agricultural department, where some of the assignments stand for six months. The boys in the fifth and sixth grades are assigned for one and a half hours daily to shop work; those in the seventh and eighth grades, two hours daily, and the high school students from ninth to twelfth grades inclusive, three hours daily. Up to and including the 9B grade or the first year of high school, the assignments are made by classes, according to the grade they are in in the academic school. When they reach the 9A grade, their prevocational experiences are balanced during the following six months and the students are either given a second trial in some subject in which they may wish to specialize, or if for any reason they have missed an assignment in a particular subject, they may make it up at this time.

Before the boy is promoted to the 10B grade, he is required to choose his vocation, subject to the approval of the Superintendent. He is aided in his decision by the Vocational Director. The boy's records in the various shops are taken into consideration, as well as his likes, dislikes, and aptitudes. The prevocational training that each boy receives, enables us to place that boy, as far as is humanly possible, in the trade to which he is best fitted.

One of the most gratifying features of our industrial education has been the splendid results we have obtained from the fifth grade students. In most schools, a similar type of prevocational work is not started until the seventh grade. We have found that many lines of work may be started to advantage in the fifth grade. This is particularly true of our classes in sheet metal work, painting, ornamental concrete, printing, agriculture and woodwork.

In regard to the nature of the prevocational work—in the fifth grade, the boys assigned to printing are first taught the case and the difference between the capitals, small capitals, italics, etc., and how to set a line of type, spacing it evenly; styles of indentation; punctuation; division, etc. Later, they are given a thorough grounding in the other fundamentals of the trade. The vocational class print the Mooseheart Weekly.

The fifth grade boys, in woodwork, are started out with copying saw work, simple animal cut-out forms, which are later followed with jointed forms and simple fitting and nailing exercises such as toy chairs, doll furniture, etc. For ornamental concrete work, modeling comes first; then the making of moulds of different kinds. Particularly in the concrete work, do the boys have a chance to gain a clear idea of the different processes and operations in the trade, for all of the concrete products we use in our buildings, including ornamental, block and monolithic, are made at the cement plant.

In the prevocational work in agriculture, the large and productive farm, with its pure-bred Holstein dairy, poultry plant, the garden of over one hundred acres, the greenhouses and nursery offer to the students a very broad field for their practical work in agriculture. The work in drafting is required of all students taking the shop trades. The prevocational work in drawing is not started until the students reach the seventh grade, the wood shop instructor giving necessary instructions in connection with his own trade.

Vocational training is given in agriculture, including animal husbandry in addition to the greenhouse, garden and nursery work included in the prevocational class; painting and decorating; cabinet making and mill-work; machine shop practice; sheet metal work; ornamental concrete; printing; sign painting; auto repairing; and machine and architectural drafting.

Besides the regular vocational groups, we have a group called the "Special Vocational," which consists of boys who are unable to carry on the academic work successfully and who will be unable to complete the high school course. These boys are given special attention from a trade standpoint. Special work is given them in English, mathematics and drawing, separate from the other groups. Also, they are given further vocational training to be sure that they can prove successful in some trade. The work during the last year has demonstrated that most of these boys can do good work in some one line and may prove as successful as the other groups of students. These boys are of the type that ordinarily drops out of our public schools in the sixth or seventh grades and accepts employment where he finds it, seldom learning a good trade.

In addition to the training given the Mooseheart boys, we now have over one hundred disabled soldiers in nine different trades. We have been doing rehabilitation work for more than two years and during that time have graduated a number of students in various lines, particularly sign painting, show card writing, drafting, ornamental cement work and agriculture. These men have been placed in positions paying as high as seventy dollars per week. One of the men completing the course in drafting, was especially handicapped, having lost an arm at the shoulder. Thru the Federal Board, we secured a universal drafting machine for him and he proved to be so successful that he now has a fine position as draftsman for the Richards-Wilcox Co. of Aurora. He is only one of many who have made good despite their injuries, thru vocational training. This briefly explains our system of training at Mooseheart.

## The Establishment of Part-Time Continuation Classes as an Integral Part of Every Large School System

**Albert F. Siepert, Bradley Polytechnic Institute, Peoria, Ill.**

One of the questions which has been perplexing more than one Board of Education and Superintendent of Schools during the past few years may be stated in modern fashion somewhat as follows: "Why is a Continuation School?" To judge from their actions they must have considered them a modern version of one of the plagues of Egypt. Possibly all of us have been trying to answer for our own satisfaction questions relative to the nature, place and function of this form of education.

There has been so much agitation in recent years concerning our whole educational program and policies that it is hardly necessary to rehearse the facts. Some of us have been standing in the thick of the fight, and others have been more or less innocent bystanders, but all have known something of the struggle for a more adequate educational program for Illinois. The efforts to give us a dual system backed by certain interests, the counter activities for the unit plan, the development of the program under the patronage of the Smith-Hughes Act and more recently the compulsory Continuation School plan, are sufficiently familiar to us to bring to mind the recent series of events. Some of us felt that the Illinois Law was a remarkable step in advance. The abandonment of the whole thing reminds one of the specially large wave that may be seen rolling in toward shore, and which finally breaks far in advance of any of its fellows—only to be followed by such a recession of waters that one may consider the whole effort wasted. However, all in good time other waves of equal or larger proportions roll in, and he who goes on a stroll by the water's edge needs be on his guard lest he be caught. The present state of affairs is only the ebb of the flow which will again sweep forward to larger achievements.

Possibly one may wonder why the Continuation School agitation? The speaker believes it an evidence of unrest due to mistakes and short-comings of the existing public school system. All of you know that in pioneer New England days education was highly prized. The school house was provided for almost from the earliest settlement. School was not in session as many days out of the year as at present. In the short time actually devoted to school work only most fundamental processes could be attempted. It was realized that education was a bigger thing than merely the school and its routine; that all of life's experiences amid those pioneer circumstances were part of every one's education. The school could only give experience in those accessory features of education which may be carried on in the school room. In our own day we have made both possible and necessary the lengthened school year. In place of two or three months of contact with books we have nine months or more, and in place of voluntary attendance we have extended compulsory attendance. This addition in time was not accompanied by a similar growth in the attainment of education. We have limited in drastic fashion the work and play experiences of the child and added only increased emphasis on the accessory phases of learning. In short, our existing public schools have made the three Rs a much more extensive part of school training with a corresponding decrease of opportunity in other fields. I do not wish to pose as a critic, but I do feel that much of our difficulty with boys and girls in school has been due to a lack of definite aim, and an insistence that all individuals shall travel the same road. Not only have we had problems with boys and girls in school, but also has the number of those leaving school increased beyond all due proportion. The pity of it all is that so many of those leaving school are not compelled to do so because of the stress of poverty in the home, and that they lack both that amount of preparation which will enable them to become wage earners as well as that command over the very fundamentals which we have stressed so vigorously.

For the past few years this University thru its Department of Industrial Education has emphasized the Continuation School as the solution of the difficulty. We have had legislation enacted and plans formulated to provide an opportunity for those boys and girls to gain that which they did not secure in the existing public schools. Personally, I have every sympathy for the young man or woman who wants to improve himself and to master that body of information necessary to attain his or her ambition. I am not so sure that the Continuation School has as yet demonstrated that it will care for this type of person, and the one who does not care about it but who attends because the law says "Thou Shalt." I am certain that the Continuation School in Illinois has not had a fair chance to demonstrate its value for anything.

The more fundamental solution seems to me to lie farther back. We need an awakening among school officials, teachers, pupils and parents as to the specific objectives of education. We need to define those which must be attained in the organized school and those which must or can be reached thru outside agencies. Having come to some agreement concerning objectives we need to scrutinize the activities of the school to see just how far we are actually moving in the right direction of attaining them. We may need to scrap some courses, some equipment, some pet theories and even some teachers before we come to the root of the problem.

This is not the time nor place to discuss objectives at length, but it is necessary to know what we wish to accomplish before we can accurately place machinery in position for operation. If you have not read the recent literature on this topic you will be interested in the position taken by some of our educational leaders. For example, the N. E. A. Commission on Reorganization of Secondary Education presents seven objectives. For purposes of illustration these may be used for all of education. The points selected are (1) command of fundamental processes, (2) health, (3) worthy home membership, (4) citizenship, (5) worthy use of leisure time, (6) vocation, (7) ethical character. It is evident that these are somewhat related, that possession of several would aid in attaining the rest.

Now how far are our present schools capable of attaining these objectives? Evidently considerable addition and changes are necessary to even approximate them. What are we actually doing to attain them? Read the answer given by Dr. Bobbitt in the School Review of April, 1921. His conclusion is that so far as current practice shows our school administrators have not caught the idea.

Why then the Continuation School? My belief is that our present schools need such a change in point of view and practice that we will definitely work toward the accomplishment of objectives similar to those listed above. We will give the training in the fundamentals, we will not neglect health, we will seek to promote the wise use of leisure time, we will endeavor to develop character and to give such training in vocation that the boy of today will be the good citizen of tomorrow.

Such a program implies not only a better type of teaching and a more varied opportunity for the pupils in the regular all-day public schools, but there must also be such additional machinery as will care for the boy and girl who have had to leave school, but upon whom society places the demand for additional education. Under the conditions of a democracy we cannot prophesy what the man or woman may need in the way of specific trade knowledge or skill. We can give our boys and girls thoro training in all of those items that every one should have as a basis. We can, secondly, give them such technical knowledge and skill in our Manual Arts and Home Economics courses as are fundamental to a great host of useful activities in adult life. Suppose he then enters employment. His duties are specific, his problem is no longer general. Here the Continuation School should function. No matter whether he is sixteen or sixty he should be enabled to gain that definite help necessary for his success. This implies of course that he cannot go back into the classes of the public schools. He must be placed with others having like or related problems. This will not be feasible for the small school system, and only the larger cities can have a complete program. The smaller community can however do much more than has been done in the past. Note how few cities have as yet established the general industrial school for cities under 25,000. Here lies to my mind a golden opportunity for the men teaching the Manual Arts if they will only avail themselves of it.

Is the thing feasible? We can only point to cities where apparently the Continuation School is at work and supplying a form of service most worth while. If we read such books as Sadler's "Continuation Schools in England and Elsewhere" we may get the point of view reached in foreign countries a dozen years

ago. Or, taking concrete cases, such cities as Munich, Bavaria, where Dr. Kerchenstiner has had such remarkable success. I was again impressed with what they have been doing while rereading some of his articles in which I find the statement, "Our school system of Munich directly prepares ninety-five percent of the population, during the period between the sixth and the eighteenth year for the trades, commerce and industry, and attempts to develop its pupils as far as possible in these pursuits." Surely we are still far removed from that ideal when our schools will reach so many of our people and actually attempt to do for them what has been done at Munich.

Some of you are familiar with the Continuation School of Milwaukee. While not directly a part of the public schools due to the peculiar plan—the dual system of Wisconsin—this school is to all intents and purposes a part of the public schools of that city and stands today as one of the most successful illustrations of extended educational opportunity in our country. It remains largely with those interests represented by this group as to whether or not we shall find Illinois providing not identical but equal opportunities for pupils of many interests to find themselves and to become better prepared to fill jobs that are necessary for the good of society and sufficiently held in esteem to promote that satisfaction in work which every good workman needs. If you believe that American public school education must be made more definitely related to the attainment of specific objectives, if vocation, citizenship and all these imply are items with which the schools must concern themselves, then you will not rest content until we have a more adequate machine in operation than at present. You will seek to have in every community large enough to warrant it, greater opportunity for the best possible preparation to live fully and completely as may be given to citizens of Illinois to do.

## 12. MATHEMATICS SECTION

The meeting of the Mathematics Section was called to order by Mr. W. T. Felts of Carbondale. The morning session was entirely devoted to a discussion of Algebra.

**The Fundamental Principles of Algebra** was discussed by Mr. R. L. Modesitt of Charleston in the following paper:

An eminent mathematician has said recently that of all the high school subjects, algebra has the least and geometry the most educational value. No study in the high school course leaves a more hazy impression on the mind of the average high school student as to its purpose and value than does algebra. The student may put in hours of hard work; he may acquire some skill in performing algebraic operations (to him a highly mechanical accomplishment); he may be able to solve a fairly large number of the problems; he may quote verbatim many definitions, rules and principles; but, when asked what algebra is "all about," what the letters mean, and whether or not there is any "point" or advantage to his accomplishments, the pupil is "at sea." In talking with students, I find that the work done by them, in many cases, is quite purposeless and meaningless. To many the algebra work is done from day to day because it is a task assigned, a sort of daily grind that they must go through, using as their guide-posts the type examples worked out in the algebra texts, or explained by the teacher in the assignment of the lesson.

For some weeks, at the beginning of the present school year, I made it a daily practice to copy on a sheet of paper erroneous statements made in the written work of students in my algebra class. These students had had one year of algebra in the high school and were reviewing in preparation for more advanced work. Samples of the type errors that I noted are:

(1) $x^3 \div x = 1^3$ (2) $\frac{a^3+b^3}{a+b} = a^2+b^2$ (3) $(a^2)^3 = a^5$ (4) $\frac{x^2}{x^2+ab} = ab$

We were reviewing the laws of exponents. In a test I gave the following question: Write illustrations of three laws of exponents, using numbers of arithmetic. You may be interested in some of the responses:

(1) $6^2+6^3=6^5$ (2) $9^4 \div 3^2 = 3^2$ (3) $(4^3)^3 = 4^5$.

In speaking of such blunders, one should not omit some which, I am sure, are familiar to all of you:

(1) $\frac{x+1}{x}=1$ (2) $\frac{1}{a}+\frac{5}{a}=\frac{6}{2a}$ (3) $\sqrt{a^2+b^2}=a+b$

Pupils will say $\frac{1+1}{a+b}=\frac{1}{a+b}$, when they would never think of saying $\frac{1}{3}+\frac{1}{4}=\frac{1}{7}$. Moreover, they will say $(a+b)^2=a^2+b^2$, when they would not say $(3+4)^2=9+16$, or 25.

Now my feeling is that the types of error which I have noted are not peculiarly characteristic of algebra as taught in any one school. I dare say that many of you are experiencing, or have experienced, similar difficulties. There is something wrong. Where does the trouble lie? Is it to be found in the stupidity of the pupils, or in the difficulty and intangibleness of algebra itself, or does the difficulty come from a lack of emphasis on the outstanding or fundamental notions, which we, as high school teachers, should have in mind, when teaching the subject? I am going to assume that the latter is the principal source of trouble. The question that we have before us then is: What are these fundamental notions that a teacher of high school algebra should have in mind?

Let us imagine that we have here before us a cylindrical vessel the volume of which is to be found. I cut a paper the same size as the bottom and divide it into inch squares. Making due allowance for incomplete squares, I count and find that there are very nearly 22 inch squares in the paper. We shall say that there are exactly 22. If, now, I place in the cylindrical vessel a layer of clay 1 inch thick and just large enough to cover the bottom, I shall have 1 cubic inch of clay standing on each square inch in the bottom. There will be, evidently, 22 cubic inches in the layer altogether. This cylinder is 7 inches high. I pack 7 layers of clay 1 inch thick on top of one another, and the total amount of clay that the cylindrical vessel holds is 7 x 22 cubic inches, or 154 cubic inches. If there were, in the base of the cylinder, 17 or 25 or any other number of square inches, and, in the height, 5 or 11 or any other number of linear inches, it is clear that I could calculate the amount of clay the cylinder will hold in the same way, namely 5 x 17 cu. in., 11 x 25 cu. in., and so on. Consequently, we have the following rule for finding the volume of any cylinder: The volume of a cylinder is found by multiplying the number of square inches in its base by the number of inches in its height. If the area of the base had been fractional, say 27.1 square inches, each of the layers of clay would have contained 27.1 cubic inches, and, if the height had been 10.4 inches, I could have packed into the cylinder 10 slabs of clay 1 inch thick and another thinner layer .4 of an inch thick. Then, extending the definition of multiplication so as to include fractional, as well as integral numbers, I could multiply as before, and the rule for finding the volume of the cylinder still holds.

Now suppose it should be necessary to write this rule in a handbook for reference. It would, evidently, take too long and take too much room to write every word as follows: The volume of a cylinder is found by multiplying the number of square inches in the area of its base by the number of inches in its height. There would be no difficulty in knowing the meaning if one should use abbreviations and write: Vol. of cyl. = base x ht.

There are a great many people who constantly need to make use of notes or memoranda of this kind. They are such people as engineers, who need rules for finding the weights that wooden beams and steel bars will support, and ship builders and architects, as well as electricians, sailors and military engineers, who use rules for finding the charge of powder needed to blow a breach in a wall of given thickness. Some of the rules they use would take up too much room in their hand books, even if they should shorten them, as we have the rule for the volume of a cylinder, by using the abbreviation vol. for volume and ht. for height. They find it necessary to use a kind of shorthand for writing their notes. The principle they go by is to use only one letter for a word, such as "height," or a group of words, such as "the volume of a cylinder." An engineer would write the above rule as $V = B \times h$. So far as possible the letters used are such that they suggest the words for which they stand, V for volume, B for base, and h for height. If it is agreed that two numbers are to be multiplied, when the letters referring to them are written side by side, the rule would be written $v = bh$. That is, the formula, $v = bh$, is merely the shorthand way of writing the rule, the volume of a cylinder is found by multiplying the number of inches in its base by the number of inches in its height.

The question which I proposed for discussion is: What are the fundamental notions of algebra? So far, it seems that I have been talking about a rule in arithmetic. But in learning this rule in arithmetic, the pupil is beginning the study of algebra. Let us see if I can make clearer what I have in mind. In arithmetic the pupil learns that by the area of a figure is meant the number of square inches, or square units that will cover it, and that the area of a rectangle 7 inches long and 5 inches wide may be found by covering its surface with inch squares, so arranged that they appear in 5 rows each containing 7 inch squares. It is clear to him that the area in question is 5 times 7 square inches. So far, this example is entirely in arithmetic. But let the pupil get away from the particular numbers 5 and 7 and their use in finding the area of the particular rectangle, and try to analyze the process by which he finds the area of any rectangle. The essence of the process is the multiplication of the length of the rectangle by the width. Just at the moment the pupil makes this analysis, he has begun the study of algebra. Even so, the moment a pupil sees that the volume of a cylinder, no matter whether its base is 17, 22, or 25 square inches, or its altitude 5, 7, or 10.4 inches, is equal to its base multiplied by its height, that pupil has crossed the boundary that separates arithmetic from algebra. As stated by Nunn in his "Teaching of Algebra," "The most fundamental element in algebra is analysis."

Arithmetic and algebra are very closely related. One studies algebra in arithmetic and arithmetic in algebra. It is not an easy matter to define algebra. Neither is it an easy matter to draw a definite line between arithmetic and algebra. In fact, it is impossible to separate two sciences so closely related. For us, the line of demarkation is not an important consideration. The important thing for us, as teachers of algebra, is to realize that the difference between arithmetic and algebra is not so much a difference in the thing studied, as a difference in the way one thinks of the thing studied, whether, as in arithmetic, the manipulation of particular numbers to get a particular numerical result, or, as in algebra, the process involved in the manipulation to get a definite expression for this process.

There are many types of problems in arithmetic, the analysis of which, yields a rule for solving every problem of the type. In arithmetic, the pupil finds the area of a rectangle, the area of a square and of a circle, as well as the volume of a rectangular solid, of a cube, and of a cylinder. He also solves problems in finding the surface and volume of a prism, and of a pyramid, as well as of a cylinder, a cone and a sphere. In percentage problems the pupil finds the percentage by multiplying the base by the rate per cent; in interest problems, he finds the interest by multiplying the principal by the rate and this product by the time expressed in years. All of these and many more are merely examples of

types of problems in arithmetic, which, when analyzed, give rise to definite rules. They are types of problems which may be used to decide advantage in beginning the study of algebra, when it is so necessary that the pupil put definite content into the symbolic expressions that he is learning to manipulate. Let us then set down, as the first fundamental element for the teacher of high school algebra to emphasize, this idea of analysis, the bringing to light of the essential process concealed in the numerical garb of arithmetical problems.

For the study of algebra, as we have seen it thus far, the essential element is the power that every pupil has, at least to some extent, of seeing the process involved in a type of arithmetical problem. A sufficient command of English to state the process, once it has been discovered, is presupposed. But, as we saw, in studying the derivation of the formula for the volume of a cylinder, one cannot get on very well in writing the rules that one learns and needs without some kind of abbreviations or symbols for expressing these rules. To write $v = bh$ is a simple matter in comparison with writing the long rule for finding the volume of a cylinder. $d = \frac{1}{2} gt^2$ requires much less time for writing and much less space than the statement: The distance through which a body falls from rest equals ½ the product of the square of the time of falling multiplied by the constant due to gravity. In fact, without the aid of symbols, many of the rules that have been discovered in mathematics could scarcely be made usable. One writes $(a+b)^n = a^n + na^{n-1}b + \frac{n(n-1)}{2!} a^{n-2}b^2 + \ldots\ldots$, but when the attempt is made to express in words the rule, of which this is the symbolic expression, it is found very lengthy indeed, and almost useless for practical purposes.

Nunn in his book entitled "Exercises in Algebra (including Trigonometry)" gives interesting lists of exercises, for practice in expressing rules and principles in the shorthand of algebra, as well as exercises to give skill in writing formulae for solving certain types of arithmetic problems. With your permission I shall read and discuss a few of these exercises.

(1) Using the shorthand of algebra, write the rule for calculating the cost of a number of things, when you know the price of each. Stated in words the rule is: The cost is obtained by multiplying the price of each thing by the number of things. In the symbols of algebra, $C = np$.

(2) Write the rule, in the shorthand of algebra, for calculating the cost (C) of a certain number of things (N), when you know how much (c) another number of the same kind of things (n) costs. Clearly, this is: $C = N \frac{c}{n}$.

(3) A green-grocer buys a certain number of oranges at a certain price per dozen and sells them at so much each. Write a formula for his profit after selling a certain number. Of course, the profit equals the difference between the selling price and cost of each multiplied by the number of oranges sold. Hence, the formula is: $P = N \left(s - \frac{c}{12}\right)$.

(4) Using the shorthand of algebra, write the rule for finding the number of spoonfuls of tea required for a certain number of persons according to the receipt, "One spoonful of tea for each person and one for the pot."

(5) The time (t) in hours for cooking a joint of beef of given weight (w) is given by the rule, "Allow a quarter of an hour for every pound and 20 minutes over." Write the rule in algebraic symbols.

(6) Write the formula for finding the weight of a bag containing 37 marbles, given the weight of a bag (b) and the weight of a single marble (m). The formula is: $W = b + 37m$.

(7) Write the formula in exercise 6 for any number of marbles (n). This gives $W = b + nm$.

(8) The length of shelf that would be occupied by 8 books of a certain thickness, followed by 5 books of another thickness is given by a formula. Write the formula. We have $L = 8t_1 + 5t_2$.

(9) Write the formula for the length of shelf that would be occupied by two sets of volumes, given the number and thickness of the volumes in each set. The formula is $L = n_1 t_1 + n_2 t_2$.

Now, such exercises as these are a revelation to high school pupils, who have never stopped to think what the symbols of algebra really mean. I recommend them for your use in algebra classes.

The history of algebra shows that the growth of a concise symbolism has closely paralleled the development of the science. It may be of help in appreciating the struggle that pupils have in understanding the meaning of the symbols of algebra, to mention the periods through which the world has passed in developing the present method of writing the equation, and to give an illustration, under each period, of the method used.

Three periods are rather clearly marked. The first is the rhetorical period. In the algebra of Mohammed-ben-Musa, written during the rhetorical period, is found the quadratic equation $x^2 + 10x = 39$ written as follows: "One square and ten roots of the same amount to thirty-nine." That is, equations are written entirely in words and no abbreviations or symbols are used. To Mohammed-ben-Musa the equation which I have given meant: What is the square which increased by 10 of its roots makes 39? Incidentally, this may throw some light on the reason for the expression, root of an equation.

The second period in the development of the symbolism of algebra is known as the syncopated period. The words used in writing equations were abbreviated, somewhat as the words were abbreviated in the rule for finding the volume of a cylinder. Diophantus, an Alexandrian, living during this second period, perhaps in the first half of the fourth century, wrote a work in which he represented the unknown quantity in the equation by the final letter, $\rho$, of the word used for unknown quantity. He used a letter, which looks somewhat like the letter i, for the word equals, it being the final letter of the word.

The third period, which I shall mention, is the period of symbolic algebra. Vieta has the honor of founding symbolic algebra, much the same as we have it to-day. Before his time (about 1600) unknown quantities were represented by letters, but the powerful influence of using letters for known quantities as well, had its beginning with Vieta. Algebra became a search for operations to be performed, rather than a search for particular values, that is, the idea of function was already beginning to enter the science.

Now, when it took the world until about 1600 to develop the present symbols for writing equations, it is not to be expected that high school pupils will master these symbols, except through well directed effort and hard work. Pupils in the elementary school spend much time during the first two or three years in learning to write numbers in figures and in learning to read the numbers so written. It is necessary for them to do this. It is equally necessary for pupils in the high school to have much practice in interpreting the symbols used in algebra, and to extend this practice over a long period.

Perhaps this question arises: Are the x's, a's, and b's used in algebra to be thought of as abbreviations for words, or do they stand for numbers? Before answering the question, it is necessary for us to get clearly before us an idea of what the word, algebra, in its broader aspects, means. There is no limit to the number of possible algebras. Wherever a field of inquiry exists, a set of symbols or abbreviations may be devised, and a set of consistent principles may be determined to facilitate the investigation of questions arising in this field. That is, a certain type of algebra may be built up. For example, chemistry has its symbols. It also has its algebra. One writes the identity, $Mg + H^2O = MgO + H^2$, the

symbols used being abbreviations for the names of certain chemical elements. This identity means that the "matter" referred to represents itself in two different forms, and such algebraic statements are of distinct aid in solving the problems of chemistry. Another type of algebra that may be of interest is that of George Boole, an English philosopher and mathematician of about 1850. He invented an algebra that has the unique distinction of being the only algebra that has nothing to do with numbers. He denotes space by the symbol i. The letters a, b, c, . . . signify definite regions of space. $a + b$ means the portion of space made up of a and b, no portion counted twice. ab means the portion common to a and b. $\bar{a}$ means space that is not a; thus $a + \bar{a} = i$. $a + a$, being the region made up of the regions a and a, of course, equals a. That is, $a + a = a$. Moreover, aa, being the region common to a and a, equals a. That is, $aa = a$. No coefficients or exponents are needed in Boole's algebra. Many of you are familiar with Hamilton's quaternions, a type of algebra in which the commutative law of multiplication does not hold. The hope has been expressed that algebras might be devised by means of which theological and political controversies might be settled through calculations with symbols, rather than through denunciations, discussions and debates. Then it would be proper for one politician to say to another, "Let us sit down and calculate." Now, the point which I am trying to make is that the x's, a's, and b's of algebra, considered in this general sense, do not stand for numbers. They stand for words and the words for which they stand may or may not refer to numbers.

In ordinary algebra the words referred to by the symbols are the names of things that have connected with them ideas of number. In this sense, then, the symbols of ordinary algebra refer to numbers; but they refer to numbers only in so far as the words, which they replace, stand for numbers. Much of the difficulty which the beginner has in understanding what algebra is "all about" may be obviated by emphasizing the notion that the symbols of algebra are abbreviations for words. $V = bh$ should mean volume equals base multiplied by height to the beginning pupil. It is hard for a pupil to see how b can stand for a particular number, without standing for this number or that one. It is easy to see that b stands for base, either 17, 22, 25 or what not.

To sum up our discussion, let us say, that the second fundamental notion for a teacher of high school algebra to emphasize is that the symbols of algebra, highly developed as they are, have as their purpose the clear, concise, usable expression of results of analysis, the symbols being abbreviations of the words used in expressing these results.

As was seen in the oft sighted formula for the volume of a cylinder, the words and phrases were replaced by letters with a gain, both in the conciseness of the statement of the rule and in the clearness of its expression. Then too, this formula, $V = bh$, may be made to yield other useful formulas, $b = \frac{V}{h}$ and $h = \frac{V}{b}$, if one merely applies to it the principle that, if the product of two factors and one of the factors are known, the second factor may be found by dividing the product by the known factor. Now the aim and end of all algebras, whether the algebra of chemistry, the algebra of political reformers, or the algebra of numbers is the same. It is to correct the weakness of language in expressing clearly and concisely the thoughts and ideas used in various fields of investigation, by expressing these thoughts and ideas in symbolic language. Yes, it is more than this. It is to so develop the symbols used, that they may be manipulated, conveniently, according to firmly established principles, to the end that they may be of aid in the investigation of questions arising in the different fields. It is just here, in my opinion, that the algebra used at present in the discussion of problems arising in educational tests and measurements is very deficient.

The symbols of ordinary algebra have a distinct advantage over the symbols of chemistry and of many other algebras in that they are manipulated according

to the same principles as those used in arithmetic. As an example, let us consider the problem of squaring the mixed number, $3\frac{1}{2}$. The arithmetical work of solving this problem is carried out as follows: $3 \times 3 + 3 \times \frac{1}{2} + \frac{1}{2} \times 3 + \frac{1}{2} \times \frac{1}{2}$ and this may be written $3^2 + 2x3x\frac{1}{2} + (\frac{1}{2})^2$. Analyzing the process of squaring $3\frac{1}{2}$, one sees that the form of the solution is quite independent of the particular number and fraction chosen for the problem. The multiplication is performed in the same way with any integral number and fraction. Stating the result of the analysis in words one has: The square of a number plus a fraction equals the square of the number, plus the product of the number and the fraction, plus the product of the fraction and the number, plus the fraction squared. This is the same as: The sum of the square of the number, twice the product of the number and the fraction and the square of the fraction. If the words of the last two statements be abbreviated by the symbols of algebra, we have:

$$(n + f)^2 = nn + nf + fn + ff = n^2 + 2nf + f^2.$$

But, now, we notice that the work might have been much abbreviated if we had dealt with the symbols, n and f, just as if they were figures. The symbols are of such a character that they correspond precisely to the figures used in the arithmetical calculation. It is not necessary to go through the process with the figures first, and afterwards to express the rule resulting from the analysis in symbols. The letters may be manipulated, as if they were figures, with just as much certainty of arriving at a true result.

The example given falls under the class of equalities called identities. An identity is essentially a declarative sentence. It is true, no matter what numbers are referred to by the symbols. In high school algebra, as well as in more advanced mathematics, much more use is made of identical transformations than the time spent in teaching the subject would indicate. It is an open question as to whether identities are not more important, both in high school algebra and in mathematics beyond the high school, than equations.

The principles used in writing identical expressions are simple and few in number: (1) Multiplying and dividing both numerator and denominator of a fraction by a number does not alter the value of the fraction. (2) Adding and subtracting the same number does not change the value of the expression. (3) Multiplying and dividing by the same number does not change the value of an expression. (4) Indicated processes may be performed, or processes to be performed may be indicated in an equivalent way, without changing the value of an expression. In teaching identities every step taken in the manipulation of the symbols should be proved by reference to some one of these principles. Then perhaps the error of subtracting the same number from numerator and denominator of a fraction, and assuming that the value of the fraction remains unchanged, would not be so common among pupils.

I wish to discuss another example, under the general topics of the manipulation of symbols, somewhat different from the one already discussed. Let it be required that one find the divisor in a division problem, knowing that the dividend is 27, the quotient 4, and the remainder 3. The arithmetical reasoning involved is somewhat as follows: Since 4 times the divisor added to 3 gives 27, 4 times the divisor must be 3 less than 27, or 24. Then the divisor is 6. Writing the steps one has:

4 x the divisor + 3 = 27.
4 x the divisor = 27 − 3, or 24.
The divisor = 6

That is, an equation has been solved completely.

The analysis of this particular equation indicates that whatever the dividend, quotient and remainder, the reasoning involved in finding the divisor is the same.

If the essential features of the analysis be stated in words, and, finally, expressed in symbols, one has:

$$qd + r = D$$
$$qd = D - r$$
$$d = \frac{D - r}{q}$$

Thus, in the case of the formula, one notices that the letters are used precisely as figures in arithmetic, according to the same principles, and with equal certainty of a true result. This, no doubt, is the reason for the feeling on the part of so many pupils that the symbols of algebra stand for numbers, rather than for words. Furthermore, it should be said that by manipulating the symbols of a formula according to the laws of arithmetic the mathematician may obtain results which lead to discoveries entirely unknown to the skilled electrician or mechanical engineer.

The equation differs from the identity in that it is, essentially, an interrogative sentence. Its members are equal for only certain values of the letters involved, and these are the numbers asked for by the equation. The process of finding these particular values is called solving the equation and the steps in the solution are, as in the case of the identity, governed by principles in arithmetic. It is a lamentable fact that high school pupils do not know and understand the principles they use in solving equations, and in making identical transformations. They multiply such expressions as $\frac{x^2}{3} + \frac{2x}{3} - 5$ by 3 in order to simplify it, and assume that the resulting expression is equal to the first. They speak of the value of an equation, and say that multiplying each member of an equation by the same number does not change the value of the equation. Our pupils need to be clearer on the use of the following principles:

(1) If the same number be added to equals, the sums are equal.

(2) If the same number be subtracted from equals, the remainders are equal.

(3) If equals be multiplied by the same number, the products are equal.

(4) If equals be divided by equals, the quotients are equal.

(5) Multiplying or dividing the members of an equation by zero is not permissible.

Until recently, high school algebra has been taught largely as a collection of rules for the manipulation of algebraic symbols. It has not at all been the developed science that elementary geometry has long since become. In fact, if it were not for the study of plane geometry in our high schools, it is doubtful whether or not our pupils would ever get from the study of algebra alone any clear notion as to what is meant by a mathematical demonstration, and yet algebra is better suited than geometry to show what is essentially involved in mathematical reasoning.

Now, having taken as the first fundamental element in algebra, the analysis of type problems in arithmetic, and as the second, a concise, usable symbolism for expressing the essentials of the analysis, we are ready to state a third fundamental notion that the teacher of high school algebra should emphasize. It is this: The symbols of algebra may be "exercised" like the figures in arithmetic and according to the same principles.

There is a fourth fundamental element which should be mentioned. The pupil in arithmetic, sooner or later, reaches the point where, in his work in division the dividend is not exactly divisible by the divisor. A new kind of number, called the fraction, is the result. Just so, in algebra there comes a time when subtraction is no longer possible, and the necessity arises for a new kind of number, the negative number. Again, in arithmetic, numbers are found such that their square roots can not be obtained, an absurd situation, and hence we have numbers called

surds. On the other hand, in algebra, the pupil attempts to find the square root of 4, and comes in contact with another strange number called an imaginary.

Thus we have, as Huntington in his article on "Fundamental Propositions of Algebra" so well points out, not one science of algebra, but rather a collection of closely related sciences. We have the algebra of positive integers; the algebra of all integers, positive, negative, and zero; the algebra of positive rationals; the algebra of all rationals; the algebra of all real quantities, rational, irrational, positive, negative and zero; and finally the algebra which includes all of the others, the algebra of complex quantities.

$4 \times 5 = 20$ is called multiplication. Also, $\frac{1}{2}$ of $10 = 5$ is called multiplication, although the pupil insists that, in the latter case, the number is divided. Again, in the problem of finding the compound amount of \$1.00 for 5 years at 4 per cent, one writes $(1.04)^5 \times \$1.00$. But, suppose that the time is $5\frac{1}{2}$ years. The amount at the end of $5\frac{1}{2}$ cannot be found by $5\frac{1}{2}$ multiplications. It seems reasonable, however, that the process should be indicated by the same symbolism, namely $(1.04)^n \times \$1.00$.

The symbolism of algebra, originally invented to express the simple operations in arithmetic, is found so convenient, when numbers beyond positive integers are made necessary, that the definitions of these simple oeprations are deliberately made to include the less simple operations with the new kinds of number. This element of the gradual extension of the number concept and the need for a corresponding change in the definitions of algebraic operations is the fourth fundamental notion that I wish to speak of.

I have tried to point out four fundamental elements which a teacher of high school algebra should have in mind:

(1) The ability to see the essential process in an arithmetical problem, that is, analysis.

(2) The clear, concise, usable expression in symbols of the rule resulting from the analysis.

(3) The manipulation of the symbols of ordinary algebra according to the principles of arithmetic.

(4) The extension of the number concept, and the need for a corresponding change in the definitions of fundamental operations.

In closing, I wish to acknowledge my indebtedness, for many of the ideas I have tried to make clear, to T. Percy Nunn, whose book on the Teaching of Algebra has been of great help to me.

This paper was discussed by Mr. W. J. Risley of Decaur, followed by a general discussion of the topic.

Mable Sykes, Chicago: The fundamental difficulty of the type specimens given by Mr. Modesitt is the fact that there is a superficial resemblance between the cases and the teacher must invent some new process by which this difficulty can be overcome.

Mr. Van Cleave, Eldorado: Exponents and coefficients are merely used for convenience and a thorough explanation of these by the teacher will greatly aid in overcoming difficulties.

Mr. Felts, Carbondale: A new algebraic language on an arithmetical basis should be developed.

A translation of symbols and processes into words is essential as an aid in overcoming difficulties in Algebra.

The question of **What is the Proper Amount of Drill in Elementary Algebra** was discussed by Miss Emma C. Ackerman, Lockport, Illinois.

The following is a synopsis of this paper:

1. Drill has 2 purposes: Help form concepts; Help fix operations.
2. Drill is often used to fix concepts, when there is no real perception at the outset; the mind, by repetition learns what should have been understood by proper attention at once; this kind of drill is dangerous. Also, if the mind, because of feeble intelligence, fails to grasp the concept, the drill that fixes such concepts dulls rather than trains the mind; it is not mental development.
3. The drill to fix an operation should be thorough, but not too extended; it is not necessary that all operations be so thoroughly drilled that they are at the finger tips of the pupils.
4. In selecting problems for drill, care should be taken not to fall into a type containing an incidental detail, which sets up mechanically a wrong notion.
5. Drill should not be made as mechanical as a machine; enough variety to keep pupils alert.
6. It is best that all operations should be introduced as a solution to some concrete problem.
7. More emphasis on adaptation of the operation than drill in facility. This calls for the "practical" problem. As far as may be, give these operations to activities in the pupils' real life. We have not progressed far enough to make this a genuine school exercise.
8. Some thought must be given to subsequent work, in deciding what operations should be drilled.
9. Pupils should be made to feel the need of drill.
10. In the main, too much time is usually given in elementary algebra to drill; this happens because:
    a. Texts are more easily made with large lists of drill problems.
    b. It makes the best kind of busy work.
    c. It is easier to use as a standard for grading and promotion.
    d. It is the smoothest kind of class recitation.
11. To sum up,
    a. Drill should be limited to the smallest amount, but should be effective; this is done by making every exercise a drill exercise as well.
    b. Drill should never be a dead monotony.
    c. Drill that takes the place of other activities in fixing either concept or operation is a detriment.
    d. Drill is inevitable.

The following reports by Mr. E. W. Schreiber, Maywood, and C. M. Austin, Oak Park, show the relation between General Intelligence and Ability to do High School Algebra.

# A Study of the Rogers Experimental Tests of Mathematical Ability and a Determination of the Correlation Coefficient Between General Intelligence and Mathematical Ability

Edwin W. Schreiber, Maywood, Illinois

A. Introduction.

Newton said of himself: "I do not know what I may appear to the world, but to myself I seem to have been only like a boy, playing on the seashore, and diverting myself in now and then finding a smoother pebble, or a prettier shell than ordinary, whilst the great ocean of truth lay all undiscovered before me." It is with a similar point of view that I began the above mentioned study and though I am quite sure a few (smooth?) pebbles have been found yet I am well aware that a "great ocean of truth" lies still undiscovered.

B. Contents.

1. Cause—"Mathematical Ability as Related to General Intelligence," by Prof. B. R. Buckingham.
2. Experimental Tests of Mathematical Ability and Their Prognostic Value.—Agnes Low Rogers, Ph.D.
3. General Conditions of the Present Investigation.
4. Comparison of Results of Dr. Rogers at Horace Mann High School for Girls with Proviso Results.

Horace Mann—61 girls. Proviso—48 boys, 22 girls, total 70.

| (H. M.) | A | I | G | S | M | L | Age |
|---|---|---|---|---|---|---|---|
| Average | 20.42 | 91.98 | 11.96 | 12.03 | 20.59 | 16.42 | 174.93 mo. |
| (P)Av. | 25.06 | 87.27 | 9.04 | 8.63 | 22.81 | 15.10 | 173.37 mo. |
| (H.M.)SD | 6.69 | 37.77 | 5.00 | 5.82 | 9.62 | 3.20 | 11.60 mo. |
| (P)SD | 5.64 | 30.56 | 5.00 | 4.93 | 7.28 | 3.75 | 8.35 mo. |

Key for above table: A–Algebra, I–Interpolation, G–Geometry, S–Supervision, M–Mixed Relations, L–Language, P–Proviso, SD–Standard Deviation.

5. Method of Securing Total Score.

| (H.M.) | A | I | G | S | M | L |
|---|---|---|---|---|---|---|
| SD | 6.78 | 39.48 | 5.14 | 6.60 | 9.16 | 3.64 |
| Weight | 2 | 2 | 2 | 1 | 1 | 1 |
| Multiple | 6 | 1 | 8 | 3 | 2 | 6 |
| (P)SD | 5.64 | 30.56 | 5.08 | 4.93 | 7.28 | 3.75 |
| Weight | 2 | 2 | 2 | 1 | 1 | 1 |
| Multiple | 5½ | 1 | 6 | 3 | 2 | 4 |

6. Distribution of Total Scores at Proviso.
7. Correlation Coefficients.
   a. Total Score Rogers with Total Score Otis, r —.413
   b. Total Score Rogers with Index of Brightness, r —.498
   c. Total Score Rogers with School Marks in Algebra, r —.451
      Largest P.E. —.067.

C. Conclusions.

1. The battery of tests by Dr. Rogers is as good an instrument for measuring mathematical ability as at present available.

2. The time for administering the tests is too long, namely three class periods of 45 minutes.

3. The system of scoring is too indefinite and too complicated.

4. There is a definite relationship between mathematical ability and general intelligence but the value of "r" is not quite as high as a mathematician would like to have it.

**Table showing correlation between B's of Otis Intelligence Test and teacher's grades in Algebra.**

**C. M. Austin, Oak Park.**

| Otis Algebra | 45-59 | 60-74 | 75-89 | 90-104 | 105-119 | 120-134 | 135-149 | 150-164 | 165-179 | 180-195 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 90-100 | | | | 1 | 3 | 5 | 12 | 5 | 4 | 3 | 33 |
| 80-89 | | | | 5 | 6 | 16 | 14 | 7 | 4 | 2 | 54 |
| 70-79 | 1 | 2 | 8 | 5 | 13 | 18 | 15 | 2 | | | 64 |
| 60-69 | | 2 | 1 | 2 | 7 | 2 | 1 | | | | 15 |
| 50-59 | 1 | 2 | 1 | 6 | 6 | 1 | | | | | 17 |
| 40-49 | | | | | 1 | | | | | | 1 |
| 30-39 | | 2 | | | 1 | | | | | | 3 |
| 20-29 | | | | | 1 | 1 | | | | | 2 |
| 10-19 | | 1 | | | | | | | | | 1 |
| 0-9 | | | | 1 | | | | | | | 1 |
| | 2 | 9 | 10 | 20 | 38 | 43 | 42 | 14 | 8 | 5 | 191 |

r=0.59.

191 First year pupils were given the Otis Intelligence Test. The I B's of this test were correlated with the teacher's semester grades in Algebra. The results are summarized in the above table.

At the Harrison Technical High School in Chicago 130 First year pupils were given the Chicago Intelligence Test and the Hotz Equation and Problem Test.

From these results r=0.50.

At the Lockport High School 66 First year pupils were given the Alpha Army Test. The resulting scores were correlated with the teacher's grade in Algebra.

The resulting coefficient was 0.57 with a P. E. of .05.

Dr. Lytle: The report of the National Committee for Mathematical Requirements shows that people who have high ability in Mathematics have high ability in other subjects, but not all who show high ability in other subjects show high ability in Algebra.

Mr. Wright, Chicago: If intelligence tests show a normal degree of intelligence, methods should be employed which will bring such pupils up to standard in their work.

"**Teaching Algebra Without Home Work**" was next discussed by H. C. Wright, University School of Education, Chicago, in the following paper:

Two reasons that justify the attempt to limit the first year mathematics work to the class room are the requirements defined by the American Mathematical Society in 1903, later adopted by the College Entrance Board, and the wide spread parental protest against homework in general. These reasons give us an eminent authority for limiting the number of topics presented, and an excellent opportunity to reconcile school and home.

I hasten to admit that the College Entrance Board and the American Mathematical Society may be ignored because our function is not primarily to prepare pupils to enter college, but rather to give them the elements of an important

department of knowledge and to fit them for further study of the subject, if that be their choice. However, the Board receives candidates from a large per cent of our schools, whose success means much to the teachers, and the teachers receive much of their training in mathematics from members of the mathematical society. Hence prestige and loyalty tie us to the Board and the Society.

For us as teachers a more important motive lies in our having the learning process under our control. It is when the preparation, the presentation, the assimilation, and the examination take place in our presence that we are truly in position to judge of the merits of our methods and of the difficulties of our pupils. New material assigned for home work may be solved by parents or other members of the family, by upper class pupils of the school, or by the superior pupils of the class. Have you never seen several pupils reading their foreign language text together? Then, too, the actual length of time required to do a home work assignment is an uncertain quota. Several of these unexpected lengthy home tasks falling on the same evening must be one large factor in discouraging the first year pupil.

If we are satisfied by a survival of the fittest, mathematically speaking, that is one thing, but if our mission is to teach every pupil of sufficient native ability to learn our subject, then we must omit no means to gain our end. There is an immense difference between failing 40% of the freshmen in algebra in a large Illinois city high school and in failing less than 5% in a large Illinois township high school. The last instance, perhaps, is near the number that cannot learn the algebra. The first instance results from giving the pupils "the once over in algebra." A long teaching experience makes me feel that mathematics taught as the piano is taught will have few failures. Conducting the year's work wholly in the classroom gives the teacher opportunity for much individual instruction to those who need it and on the other hand, permits capable individual pupils to accomplish most of the topics with slight aid.

Our pupils are equipped by the school with text book, note book, ruler, compass, protractor, 4H pencil, plain and squared paper, and a set of covers with rings for filing completed written work. Only the text is carried from the room. No assignment is made to the freshmen to be done outside of the room. Much of the preparation, presentation, and assimilation material is in the text book. This the pupil may read or not as he chooses in his study periods or at home. It frequently happens that pupils carry their mathematics texts home for private study or reading. But none of the written work is done outside nor is any portion of the text assigned for study.

In the class room each topic is taught, practiced, and tested, then taught and tested again, if necessary. The unit of instruction may be a chapter or several chapters. The required portions of the text are marked so that the pupil has in his possession a definite statement of what he is expected to know.

It has become a slogan with us that what we consider worth the pupil's knowing must be taught three times. The solution of a quadratic equation graphically is a case in point. This is taught each year of the first three years of our mathematics course. Each successive time the pupil acquires the method more easily but it must be taught if it is to be used. Hence when I say we teach an operation until it is mastered, I do not mean the pupil has it for all time nor that it will not be presented, again and again.

In the class room a topic is presented, and the pupils set to work on assimilative material. The teacher passes from desk to desk to give individual help or to ascertain the difficulties of the pupils. A rapid trip among the working pupils gives the basis for more class instruction and a chance to learn the needs of particular pupils. If the class comprehends the material they are allowed to work on until they get into difficulties or the topic is exhausted. At periods, a class will work for several days without any mass teaching. Then again something like

a system of equations expressed as $\frac{1}{x} + \frac{1}{y} = a$ will require

$$\frac{3}{x} - \frac{4}{y} = b$$

repeated instruction before the class makes satisfactory progress. It will be teach a little, practice a little, teach more, practice more. At this time the entire class is asked to give its attention to each period of instruction. If a visit to the desks shows that some members of the class have acquired the idea, they are told to continue, and the remnant are again taught. Generally there is some pupil who can easily forge ahead but he comes a cropper by carelessness or lack of neatness, so that he does not remain far nor long in advance of the class. Legibility and neatness are required to such a degree that there is much opportunity for the fast worker to improve his note book while the class overtakes him.

The present definitions of the requirements in first year algebra classes as made by direction of the American Mathematical Society and followed by the College Entrance Board are as follows:

The four fundamental operations for rational algebraic expressions.

Factoring, determination of highest common factor and lowest common multiple by factoring.

Fractions, including complex fractions, and ratio and proportions.

Linear equations, both numerical and literal, containing one or more unknown quantities.

Problems depending upon linear equations.

Radicals, including the extraction of the square root of polynomials and of numbers.

Exponents, including the fractional and negative.

These seven short paragraphs of what the first year algebra course should contain in the language and the practice of several authoritative bodies give us ample reason for making the beginning year cover a few topics and their time to be somewhat thorough.

In the summer of 1919 I decided that I would try getting thru the year without assigning home work to the first year pupils. The preceding year had been my seventeenth of high school mathematics teaching and the freshman year of my oldest child. My experience in the classroom and in the home made me believe that home work could be annoying to the high school freshman and in most cases of little real benefit. The humanities could be depended upon for enough tasks to keep the home lights burning.

In my neighborhood pupils leave home at seven-thirty o'clock or earlier and frequently do not return until five in the afternoon. And on some of these days my youngest daughter, in her fourteenth year, and a high school junior, is not in bed until ten-thirty because of the homework assigned. This certainly is not a union day's work. Any of you who have children of high school age in your homes must have had it brought emphatically to your notice that the children get very little new material by their unaided efforts. You may even recall the little working woman of the L. H. Journal's article who offered to hear the children recite their lessons in the evening providing the teachers would teach the lessons during the school hours. The mother realized that teaching takes much more time than reciting.

Hence, backed by experience in the class room and in the home, I tried to work out a technique that would give my first year pupils those mathematical experiences necessary to carry the second year mathematics successfully, and suffi-

cient knowledge and skill to satisfy the departmental tests that were given to all the freshmen classes; perhaps, twelve such tests in the year.

The technique adopted had five steps. They were prepare, present, assimilate, recite, and test. If necessary the topic is taught again and tested again.

However, these five steps may be taken as three. The first then, is the preparation and presentation; the second, is the assimilation or practice in application of the topic taught; the third is the recitation and the test.

In preparation and presentation an effort is made to motivate the new topic from the old. For example, it is suggested that the graphic method may be used to solve a system of equations in two unknowns. Then elimination is proposed as a more accurate method. And I may go on to determinants as a means of solving not only equations of two unknowns but more than two. It all depends upon the ability of the class in hand. After the teaching of the new topic has been done, a selected list of problems of increasing difficulty is given for class work. Frequently the class is held to the accomplishment of this work, problem by problem. No aid is given except the acceptance or the rejection of the individual's work. Sometimes a pupil tries for the remaining part of the period without success. But generally every pupil solves from one to five exercises of increasing complexity.

After the teaching and working experiences the pupils are ready for a recitation or a discussion of the material. This procedure may reveal the need of more teaching and more assimilative material. Or it may be decided that the principles have been mastered and the class is ready for a written test. This follows immediately or after an interval of several days.

However, at the conclusion of the instruction in a topic, a departmental test is given. This test is prepared by a teacher who has no class in that material. The question paper is in two parts, the required and the excess. It is given to all the first year classes on the same day. The maker of the test prepares a key for scoring the papers. Each teacher decides the satisfactory score for his group. But the accepted grade must be high, eighty to ninety percent. Three grades are used; "s" for satisfactory, "1." for a perfect paper, and "1.1" or "1.2" for a paper that has both the required and the excess parts perfect.

Pupils having unsatisfactory papers are given more instruction in class or after the regular periods. Or they may be assigned work from the text all ready covered. At a later date a supplementary test is held. This may be repeated in some instances several times.

This is the third year of conducting the freshmen mathematics classes without home work, and hence it may be of interest to know the history of the first section taught under the plan. These pupils are now high school Juniors. In the following table each pupil is referred to by number. The first half of the table is the record of a freshman class starting in October, 1919, and the second of a class starting October, 1920.

Mathematical Record of M. I Section Beginning Oct., 1919.

| Pupil | Yr. 1 Semester 1 | Sem. 2 | Yr. 2 Sem. 1 | Sem. 2 | Yr. 3 |
|---|---|---|---|---|---|
| 1 | 75 | 75 | Left school | | |
| 2 | 90 | 85 | 1. | 1. | Taking |
| 3 | 90 | 85 | 1. | 1. | " |
| 4 | 85 | 85 | 1. | 1. | " |
| 5 | 75 | 75 | 1. | 1. | " |
| 6 | 90 | 100 | Taking now | | |
| 7 | 90 | 95 | 1.2 | 1.2 | " |
| 8 | 80 | 80 | 1. | 1. | " |
| 9 | 80 | 90 | Taking now | | |
| 10 | 85 | 85 | 1. | 1. | " |
| 11 | 80 | 75 | 1. | 1. | |

| Pupil | Yr. 1 Semester 1 | Sem. 2 | Yr. 2 Sem. 1 | Sem. 2 | Yr. 3 |
|---|---|---|---|---|---|
| 12 | 80 | 60 | Failed | | Taking II |
| 13 | 90 | 80 | Not Taking | | |
| 14 | 85 | 85 | 1. | 1. | Taking |
| 15 | 90 | 85 | 1.1 | 1. | " |
| 16 | 75 | 80 | 1. | 1. | |
| 17 | 60 | D | Taking I | | |
| 18 | 85 | 80 | 1. | 1. | " |
| 19 | 90 | 90 | 1. | 1. | " |
| 20 | 80 | 90 | Taking now | | |
| 21 | 95 | 95 | 1.2 | 1.2 | " |
| 22 | 85 | 75 | Taking now | | |
| 23 | 85 | 85 | 1. | 1. | " |
| 24 | 85 | 85 | 1.1 | 1.2 | " |
| 25 | 95 | 95 | Left school | | |
| 26 | 75 | 75 | Taking now | | |
| 27 | 65 | 70 | Dropped | | |

Results of Hotz's First Year Algebra Scale applied to M. I class of Oct., 1920 in Apr., 1921. The tentative median standard of achievement for nine months work is 34.8. The class had done seven months work on algebra, geometry, and trigonometry. The median of the class is 51.89.

| Pupil | Score | Pupil | Score |
|---|---|---|---|
| 1 | 34.88 | 11 | 55.09 |
| 2 | 35.46 | 12 | 57.16 |
| 3 | 36.61 | 13 | 57.55 |
| 4 | 38.92 | 14 | 58.48 |
| 5 | 43.94 | 15 | 59.15 |
| 6 | 44.61 | 16 | 63.26 |
| 7 | 46.47 | 17 | 63.70 |
| 8 | 50.22 | 18 | 72.10 |
| 9 | 51.55 | 19 | 73.02 |
| 10 | 51.89 | | |

Advantages, then, in confining the first year mathematics to the class room are the small number of required topics, the pupils' freedom from annoying home tasks, the better acquaintance the teacher acquires of the pupils' habits of work and his difficulties, the more careful planning by the teacher in order to succeed, the greater opportunity to give the strong pupil the benefit of his superior powers, and the small percent of failures.

## Discussion of Mr. Wright's Paper

### Florence Morgan, Highland Park

I fear that I can not discuss Mr. Wright's paper adequately, first because I think I agree with him and, second, because I have never given his plan a fair trial. I did have a class in Algebra last year which I taught for six weeks with practically no home work. I gave an assignment which the average student finished during the class period. Of course, the brighter students finished the required amount before the end of the period, thus giving them a chance to do optional work. Not only did these particular students have the advantage of more work, but their enthusiasm was augmented by a keen spirit of rivalry among them. As for the weak students, they were undoubtedly benefited, but their problem was not settled. They still had some home-work. Moreover, I found that there was a tendency, on my part, in moving about the room to let one of these pupils distract my attention and claim more of my time than he was entitled to. In fact, it seemed more impossible than ever for me to do full justice

to each pupil. I am not clear as to whether Mr. Wright makes a definite assignment or simply has the students work, each at his own speed, during that one period. If he follows the latter plan, it must be almost impossible to keep the class together.

In attempting to teach Algebra without home-work, there is one difficulty that is almost insurmountable. That is the time element. At present, the majority of schools in Illinois have a forty-five or even forty-one minute period. Would it be possible to cover the essentials which Mr. Wright has laid down, in that amount of time? I do not think so. Moreover, if we attempt to cover the ground in one period only, won't we lose out some where? Will the forty-one or forty-five minute period furnish time for sufficient drill on the formal material and also for developing an ability to handle the verbal problem? Will there not be such a tendency to cut down the time for class drill that we swing from one extreme to the other? That is—we will spend so little time on the formal side of Algebra that our pupils will not have the necessary tools—sharp and ready for use. At present, I use my forty-one minutes for the presentation of a new topic, for class drill, and sometimes, for getting people started on the next day's assignment and I should not feel justified in cutting out the class drill.

Moreover, if one is teaching in a large public high school, one is very apt to have a class of thirty or more pupils, a wholly unselected group containing a few very bright pupils and as many equally slow ones. A forty-five minute period would mean one and a half minutes for each pupil, provided no part of the period was taken for explanation. Would not that situation result in one or two of the poor ones monopolizing the time? Would it be possible, under such conditions, to keep the entire class up to the standard?

Altho I can not see how it would be possible to get along with no home-work, I do not want any one to think that I believe home-work papers furnish a satisfactory means of locating student's difficulties. They do not. The teacher must rely largely on the work that is done in class for determining such difficulties. On the other hand, I do not believe in the statement that was made in one number of the "Mathematics Teacher" that no useful purpose is served by home work unless the papers are carefully corrected and returned to the pupils. I admit there is danger of a pupil learning a process incorrectly, but I am willing to take this chance and rely upon the class work to show the errors rather than to feel that I must do everything in forty-one minutes. To be sure, the ideal way would be to have a longer class period and have all of the work done under the supervision of the teacher.

Besides the time element, there is one other question in my mind. If the pupil does all of his work in class, will that not develop a tendency to rely too much upon the teacher? On the other hand, if the new work is explained, if there is drill with every one at the board, and if the child leaves the class room, confident that he can handle the advance assignment, will that not bring about a feeling of self-confidence which is so important in real life? Yes—"quite confident that he can handle the advance assignment," some of you say; but by evening he will have forgotten how to do the work and will, therefore, be more discouraged than ever. To prevent this, why not allow the students to use the last ten minutes of class time for working on the advance assignment? Will there not also be a tendency for the child to take the attitude that Algebra doesn't amount to much if he doesn't have to do any work outside of class.

In opening the discussion, I should like to ask Mr. Wright what he means by the statement—"Mathematics taught as the piano is taught will have few failures." How is the piano taught? Is it not taught by rote more than by any other method? Do you mean to teach mathematics in this way? Moreover, it would be absolutely impossible to develop an ability to play the piano with no home practice.

General discussion of teaching Algebra without home work.

Dr. Lytle, University of Illinois, Urbana: A great weakness among freshmen is the inability to get knowledge out of books. Does the plan suggested by Mr. Wright develop the child's ability to get knowledge from books?

Mr. Felts, Carbondale: There are four distinct stages in the development of a problem in Algebra:

1. Development by teacher with suggestions from pupils.
2. Work by pupils at blackboard.
3. Group work at seats with slower pupils.
4. Home work.

### Afternoon Session

The afternoon session was taken up mainly with the discussion of Geometry.

"**Intuitive Geometry. What? Where Taught?**" was presented by Mr. G. A. Harper, Kenilworth and discussed by Mabel Sykes of Chicago.

Before beginning a discussion of the actual topic assigned for this paper, let us consider for a short time what are the requirements that determine whether or not a subject should have a place in the school curriculum. It does seem that we have emphasized two things entirely too much. These are, the ease of handling the subject on the part of pupil and teacher and the practical value of the subject. These two should be considered of course, but there are other considerations of more importance.

The two main objectives of school work are the development of character and the training of the mind and any subject which does not assist in these two objectives better than any other which may be substituted for it is unworthy a place in the course of study of any school. We will except, however, such subjects as stenography, printing, etc., when pursued for the purpose of preparing the individual for a definite occupation. A third objective is the practical value of the subject. This must not be overlooked. If we can give the pupil some experiences in school similar to those that he will encounter in later life, we are gaining much. But on the other hand, there is danger of overemphasizing this third objective. Even Manual Training when taught in the usual way has more value in the development of character and in formal discipline than it has as practical worth. The boy who learns to make a useful article at the manual training bench will cultivate habits of neatness and thoroughness that will enable him to do better work elsewhere.

Now, how does Mathematics stand the test of the preceding paragraphs? In the first place it is a study of the unchangeable laws of the universe. It is certainly true that the fundamental laws of science and mathematics, with their marvelous and intricate dependence one upon another are of more value to the individual than the principles of a language he will never speak. The laws of Mathematics and Science are God-made, while the principles of language and history are due to man's intelligence.

A proper study of Mathematics assists in the development of character. The pupil soon learns that, to get correct results in mathematical processes, he must obey the laws of the subject which he has learned and must obey them implicitly. A failure to reach accurate conclusions is due to his own errors and nothing else.

What this experience is worth to the individual in later years is difficult to estimate, but since nearly all the actual failures in life are due to the individual's mistakes and negligence and not to outside influences, it is well for him to encounter early that study in which he pays dearly for his own mistakes.

Furthermore, the difficult problems of Mathematics furnish abundant material to test the powers of the keenest minds, while the weaker student may at the same time find exercises within the range of his ability. One of the most valuable results from the study of mathematics is the acquiring of a good habit of preparing the day's lesson. The assignments of Algebra and Geometry are definite enough that even the student who has never learned how to study is soon able to prepare a portion of each lesson and to know positively that that much of the lesson has been completed. As he becomes more and more able to do all of the day's assignments, he develops a habit of study that will benefit him during his whole life.

But let us come nearer home to our subject and ask the definite question "Why Study Geometry?" In what way does this subject aid in the development of the individual so that it is entitled to a place in the school curriculum? Is it more important than other subjects of Mathematics and Science that might be put in its place? Let us answer these questions from the standpoint of what has been said in the preceding paragraphs. Geometry in common with all mathematics deals with the fundamental facts of the universe and every person of culture and refinement should know something of these truths. The poetry has never been written, the music has never been played that contains one-tenth the appeal to the human soul that is found in the harmonious motion of planets, stars, and other heavenly bodies. The difficulty, however, is that many of the beauties of creation are beyond the comprehension of the average mind on account of the inability to understand the mathematical principles on which these marvelous things depend.

I feel that I owe you an apology for using so much time on this part of my paper on matter that is not immediately connected with the topic assigned me, but I feel that I could not consistently discuss the topic of experimental Geometry without putting it on the same basis as any other branch of mathematics. Certainly we all want to feel that there is more worth in the subject than merely teaching a new method for drawing a right angle or for ripping a board into several equal strips.

There are three ways for the student to get possession of the truths of Geometry. The first method is by experiment; as, for example, he constructs several equilateral $\Delta$ s and after measuring the angles, he arrives at the conclusion that the value of each angle of an equilateral triangle is 60°. While such reasoning is not logically sound, yet we must admit that many of the facts of science have been discovered in just this way.

The second method is by experiment followed by formal proof. This way is the most logical of all. As for example the student finds that the two diagonals of the rectangle that he has constructed are equal. After measuring the diagonals of other rectangles, he proceeds to prove that the diagonals of any rectangle are equal.

The third method is by logical proof without experimentation. The student works with given propositions to discover their proofs or he attempts to discover new truths by juggling logically known facts. I think we will agree that this third method is the most difficult of all. We have wasted much time in the past by beginning Geometry at this point. Even though the student has no experience with Geometry till the tenth year, yet it would be wise to devote some time, even a half year, to the first two methods of acquiring mathematical truths, before we require formal proofs. This, however, is merely a makeshift to take care of those students who arrive at the tenth year without any knowledge of Geometry. The young student beginning the study of Geometry, in the latter years of the

grades or the early years of the junior high school, should learn at first a few definitions and then proceed to the use of the tools of the subject. The necessary vocabulary after the first definitions will be obtained gradually as the need arises. All of the work should be centered about the construction processes. He will need and should learn to use the following tools and material:

A hardwood straight-edge divided into inches and centimeters.

A pair of compasses.

Protractor.

$30° - 60° - 90°$ right triangle.

$45° - 45° - 90°$ right triangle.

Good drawing and cross-section paper and good firm paper for experiments in paper folding. A supply of yard-sticks, string, wire, thumb-tacks, etc. The work may proceed as follows: After the student has become familiar with the use of the tools he should learn the simpler constructions with the ruler and compasses, such a bisecting a line segment, constructing a perpendicular to a line at any point on the line or through any point not on the line, bisecting an angle, and constructing an angle equal to a given angle. After these constructions are mastered and the pupil has tested his results in many ways he is ready to settle down to definite experimental study.

The work should all be done by means of the laboratory plan. He must be given little hint of what the results are to be but must find them out for himself. As, for example, one day's lesson is about the value of the angles of triangles. We will assume that he has already learned how to construct a triangle with the compasses and straight-edge when the lengths of the three sides are given.

The pupil will do the following exercise:

(a) Draw several triangles and measure the angles. Find the sum of the angles of each triangle. What is your conclusion?

(b) Construct several isosceles triangles and measure the angles. What relation do you find between any of the angles of an isosceles triangle?

(c) Construct an equilateral triangle and measure the angles. What is your conclusion?

(d) Draw several scalene triangles and measure the angles. Where is the largest angle in each of the scalene triangles?

(e) Can you find the sum of the two acute angles of a right triangle without measuring?

After the young pupil has done a considerable amount of experimental work, he can begin simple proofs in an informal way. The five well-known theorems relating to the congruence of triangles should be done entirely by experiment. After the student is satisfied that they are true he can undertake such simple exercises as the following:

(a) ABC and XYZ are two congruent triangles, angle A equal to angle X, etc. The altitudes CD and ZK are drawn to the respective bases AB and XY. Draw the two figures and show the triangles ADC and XKZ congruent.

(b) Draw a line from the vertex of an isosceles triangle to the middle point of the base and show the two triangles congruent.

(c) AB and CD are two equal chords in a circle whose center is O. Draw OA, OB, OC and OD and show the two triangles to be congruent.

The amount of material available for experimental work in Geometry is so great that no class can be expected to do a great part of it. The teacher should make a careful selection from the following:

(a) Study of lines, angles, triangles, polygons and circles.

(b) Parallels.

(c) Drawing to scale and similar figures.

(d) Accurate proportions with the bar graph and circle graph.

(e) Symmetry.

(f) Ratio and Proportion.

(g) Constructing by paper folding perpendiculars, bisectors of angles, bisectors of lines, etc.

(h) Pythagorean theorem.

It does not seem wise to say positively where the material already discussed should be done. Certainly some of it should be done before the end of the eighth year. In schools where the mathematical program can be so arranged, a considerable amount of work in experimental Geometry can be done in the seventh year. Of course, if it is done in the seventh year, the work must be simplified to be within the range of ability of the seventh grade pupil. If experimental Geometry is neglected entirely till the tenth year, then by all means give a few weeks of it as an introduction to formal Geometry.

So far we have dodged the question of unified mathematics. Experimental geometry will be greatly enriched by teaching something of Algebra at the same time. Many of the formulas of Algebra can be illustrated so nicely with the rectangle, bar graph, etc., that it seems a shame if the pupil does not have this correlation of mathematics.

We will close this paper with a few suggested exercises for experimental geometry. It will be noticed that these exercises are in groups and the last one in the group, if possible, deals with the practical application. They are arranged in this way merely to add interest to the subject, and thereby to make it more attractive. At the same time let us use all the means in our power to convince the pupil that the subject of Geometry contains much more than the practical application.

## Discussion of Mr. Harper's Paper on Experimental Geometry

### Mabel Sykes, Chicago

The object of experimental geometry seems to be to enable the pupil to recognize the fundamental figures that make up geometric forms, such as parallels, perpendiculars, congruent figures, similar figures, and their elemental relations to each other; and to enable him to do this without demonstration. Emphasis should be placed on Mr. Harper's point that the greater part, if not all, of this should be given in grades below the ninth. It is in the earlier years of the pupil's development that he is interested in observation for the sake of observation—not usually in his high school years. In many cases this work is being given with great success in the elementary schools. As secondary teachers we should insist that it be given then.

The great question before us is—What place, if any, has experimental geometry in the tenth grade?

In the first place I wish to emphasize the fact that experimental geometry is not an introduction to demonstrative geometry. The only introduction to demonstrative geometry is easy demonstration and original demonstration. There are two ways of teaching demonstrative geometry; first, by means of the demonstrations given in full in the text; second, by original exercises. In his previous work in mathematics in arithmetic and algebra, the pupil has been accustomed to work exercises and problems, not to reproduce the work of another. To plunge him, therefore, into geometry by requiring him to reproduce proofs given in the text, is to multiply difficulties. Moreover, the original exercises suitable for beginners in geometry are much simpler than the text proofs, provided, first, that the body of fundamental assumptions is carefully and suitably chosen and, second, that the exercises are carefully graded with the difficulties analyzed out and presented one at a time. This can be done and is being done.

Yet for all this experimental geometry has a place in tenth grade work. First as illustrative material for the early definitions and conceptions that are necessary as a working basis, such as, equal angles, perpendiculars, supplementary, complementary and vertical angles. Personally, I have had very little success in giving the five fundamental constructions with ruler and compass at this stage. There seems to be two reasons for this. First, at this stage of the work, that is at the outset, the pupil does not know enough to appreciate the congruent triangle relations on which such constructions are based. To give him these constructions at the outset is simply to impose on him from the outside something for which he can see no reason whatsoever. Secondly these constructions do not bring out the fundamental notions that it is necessary to bring at this stage. I have had much more success with paper folding, leaving the construction with compass and ruler until congruent triangles are studied.

Second, experimental geometry is useful in the first semester's work in training pupils to see figures. It is often necessary to stop for a few moments and ask a few simple questions on the figure.

Third, careful drawings with measurement and computation are useful in the second semester's work to give a definite concrete meaning to the more or less abstract notions of ratio and equivalence.

Lastly, a word of warning, do not worry about the inaccuracies resulting. Accuracy is a thing that comes only with years' experience and necessity.

Then followed an account of an "Experiment in testing of mathematics teaching in several Illinois High Schools," by Lida C. Martin, Decatur.

## An Experiment in Testing of Mathematics Teaching in Several Illinois High Schools

### Lida C. Martin

The Chadsey Club, which is composed of principals of some fifteen or sixteen high schools of Central Illinois and is led by Dr. Chadsey, Dean of the School of Education of the University of Illinois, meets five or six times a year at different schools. At each meeting some topic of special interest to the schools is discussed. Last year, the members decided to make out tests in algebra, geometry, and English to give the different schools a chance to make comparisons in these subjects. This paper has to do with the tests in algebra and their results.

These tests were made out by Principal T. M. Deam of Decatur and were formulated about the equation. Each test involved eight or nine principles only and no attempt was made to cover an entire semester's work. They were made out for both first and second semester algebra and were simply for the purpose of discovering common points of interest, emphasis, and difficulty. [See sample test at close of this paper].

They were given in nine schools during the second week in January last year, were twenty-five minutes in length, and only correct or absolute answers were the basis for recording the results. Instructions to the principal and to the teachers, and a form for recording results were sent out with the tests. On this last was a place for recording the nature of the error for each problem. All results were sent to Decatur and various tables made of them. Some of these tables are in your hands now. The one on page one shows the two tests; on pages two, three, and four, the comparative results of the nine schools; page five gives the number of students taking each test. As there were 1183 in algebra I and 449 in algebra II, we had a chance to make a good comparison of results. Page five also shows the nature of the errors. [Owing to typographical difficulties these sheets, except the first, are omitted here.]

We have given the Rugg tests in algebra, in fact have a set which we use from time to time, and have also given the Minnick tests in geometry but the Chadsey tests seemed to mean more because they were our own tests, made out for us, and the comparisons made among ourselves.

They were never intended to cover the entire ground covered by such tests as the Rugg tests, but were only to bring out a few general principles and the knowledge the students had of these. We feel that we can do better on another set, however.

Before the tests were given, page six was sent to each school and filled in as this one was. Then a graph of all these data was made. It showed a wide difference in the amount of time spent on certain subjects, but was rather uniform as to the subjects touched upon. Five different texts were used in the nine schools. I shall speak of page seven later.

As to results: while it was not intended primarily as a comparative test, it really was in two ways, it ranked the schools and it ranked the teachers in each school. Each school found out where it stood in relation to the others. It was really a relative study of the work in algebra in the different schools and between the different schools. Upon finding that some schools were ahead of others, the low ones were spurred on to greater efforts. Also the teachers began to question themselves as to why some other teacher had secured better results. We let the different teachers in our building see the other grades, but I think in no case was a teacher made uncomfortable by any remarks on the results. However, in some cases, a teacher made herself that way which resulted in better work. If you will look on page seven you will find a comparative table of results of the tests we gave in January and in June which shows how much better our people did the next time the same tests were given. Our teachers did not know until the day before that the second tests were to be given and then did not know that they were to be the same tests.

The table shows that most things had been explained much better the second semester.

The Chadsey Club had its first meeting of this year the other day in Decatur and is planning to carry on this idea again this year.

I sent to three of the other schools giving the tests and shall quote a part of each answer.

One principal said, "I feel that the algebra test last year was a great success and I should like to have the same sort of thing this year. We had, as a result, more careful attention on the part of our teachers to the weighing of the various phases of the subject. Also, the fact that a number of schools were ahead of us spurred our teachers to greater efforts in getting results in every part of the work. The publishing, among club members and their schools, of the results is as important as any other part of the test."

Another says: "Our teachers were very much impressed with the value of the tests and felt that they diagnosed some of the weak points in their algebra teaching. The results obtained the second semester were much better than the first time. We expect to give the tests some time in the near future to this year's class."

The third letter said: "The tests themselves revealed a very unsatisfactory condition in as much as our pupils failed wretchedly to solve the equations presented. Although the mathematics department was a little inclined to complain of the narrowness of the tests, it did take the revelation to heart and modified its procedure so as to provide for much more drill. It was my intention at the time to repeat the tests at the end of the second semester but had to give that up. I expect now to include part or all of the Decatur tests in our semester's examinations."

The nature of the error was called for and this showed what points needed strengthening, what needed more time spent on it, and what seemed to be well understood in each class. It also showed a lack of uniformity. For example, the first problem in algebra II had $\frac{1}{3}(x-4) = 1$. So many missed this that it surprised me and I asked the students what the matter was. I found that had it been written $\frac{x-4}{-3} = 1$ they would not have done so many different things with the 3. Also very many of them called two sides of a rectangle the perimeter.

Results in Decatur seem to have been far-reaching for they even extended down into the grades and have affected the teaching of arithmetic. Much more mental arithmetic is now given.

In high school as a direct result of our ranking, we formed study classes in algebra the second semester, which met as extra classes. Some students were in the regular classes as well as the study classes, some only in the study class. These classes spurred some lazy folks to work and these were allowed to drop study class as soon as they showed enough knowledge to go on with the regular work and some even carried the semester's work.

Some were not allowed to go on with algebra this year, and just now we are trying to do some more follow up work. We are readjusting classes, taking a few out of algebra and geometry entirely, putting some back and trying to give others a good deal of individual help.

We have lowered our percent of failures by a good deal this semester so far and feel that much of it is due to the follow up work caused by a study of the results of the tests gotten out by the Chadsey Club last year.

## An Experiment in Testing of Mathematics Teaching in Several Illinois High Schools

### Algebra I—First Semester

1. Solve for the value of x:
$$3x + 2 = 14$$
2. Solve for the value of x:
$$3x - (13 - x) = 71$$
3. Separate 72 into two parts such that one part shall exceed the other by 18. What are the two parts?
4. A rectangular field is three times as long as it is wide and the distance around it is 320 yards. Find its dimensions.
5. Solve for the value of x:
$$(x + 3)\ (x + 5) = x^2 + 31$$
6. Solve for the value of x:
$$9x - 2\ (1 + 4x) = 3$$
7. Solve for the value of x:
$$(2x + 5)\ (5x - 4) - 5x = (10x - 3)\ (x + 1) + 8$$
8. A sum of $7924 was bequeathed to three persons with the stipulation that the first was to receive twice as much as the second and one-half as much as the third. Determine the amounts.

### Algebra II—Second Semester

1. Solve for the value of x:
$$\frac{1}{3}(x - 4) = 1$$
2. Solve for the value of x:
$$\frac{x}{2} - \frac{x}{3} + \frac{x}{4} = \frac{1}{5}$$
3. Solve for the value of x and y:
$$3x - 2y = 4$$
$$5x + y = 11$$
4. If 3 be added to both numerator and denominator of a certain fraction, its value becomes $\frac{7}{9}$; if 3 be subtracted from both numerator and denominator its value becomes $\frac{1}{3}$. Find the numerator and denominator of the fraction.
5. Find the values of x:
$$x^2 - 21 = 4x$$
6. Find a number such that if 66 be subtracted from it, the remainder equals the quotient obtained by dividing 280 by the number.
7. Find the value of x:
$$18x^2 - 11x + 1 = 0$$
8. Find the values of a:
$$3a^2 + 4a + 1 = 0$$

Dr. Taylor of Charleston presented the work of the National Teachers Council and made a plea for membership. One of the best ways to promote teaching and scholarship is to become acquainted with the ideas and methods employed by other Mathematics teachers. The "Mathematics Teacher" which is the official journal of the National Council of Mathematics Teachers enables teachers to do this and also gives them an opportunity to pass ideas of their own on to others.

Dr. Lytle presented the following report of the nominating committee: New member of the executive committee, E. W. Schreiber, Maywood.

A motion was made and carried that the report be adopted and elect accordingly.

The last part of the afternoon program was a "Symposium on the Report of the National Committee on the Reorganization of the First Courses in Secondary School Mathematics."

The following papers were presented:

## A Critical Discussion on the Report of the National Committee on the Reorganization of the First Courses in Secondary School Mathematics

### By J. T. Johnson, Francis W. Parker School, Chicago

This discussion shall be confined to the following headings in this report:

1. Principles of organization
2. General ideas
3. Topics to be included
4. The verbal problem

(1) Two principles are given in this report. I quote the first; "The primary purpose of the teaching of mathematics should be to develop those powers of understanding and analyzing relations of quantity and of space which are necessary to a better appreciation of the progress of civilization and a better understanding of life and of the universe about us, and to develop those habits of thinking which will make these powers effective in the life of the individual."

This is a very good principle if later in the report would have been given an explanation on what constituted these relations of quantity and of space which are necessary to better appreciation of the life about us. No one has yet defined or proved what these relations are that are necessary to this better appreciation, or that they *are* necessary.

The second principle is also vague when it says:

"The courses in each year should be so planned as to give the pupil the most valuable mathematical information and training which he is capable of receiving in that year, with little reference to the courses which he may or may not take in succeeding years."

How are we to tell which mathematical information is the most valuable and what training he is most capable of receiving in any one year?

In answer to this question we would have to resort to some scientific procedure with a view of determining which algebraic processes are most economically taught

and retained in each year. Perhaps the mechanical processes can be just as well taught in the 7th and 8th grades, and perhaps the verbal problem ought to be left to the senior year. Some experiment should be launched to determine this answer. Are we not, to a great extent, groping in the dark until this question is decided?

We cannot but endorse the statement at the top of page 3 which reads:

"Drill in algebraic manipulation should be limited to those processes and to the degree of complexity required for a thorough understanding of principles and for probable applications either in common life or in subsequent mathematics."

Drill is generally neglected, for recent investigations show that in analysis of pupils' mistakes, the most frequent error is in not understanding the process at all.

(2) Under general ideas we read;

"The one great idea which is sufficient in its scope to unify the course is that of the functional relation." "The concept of a variable and of the dependence of one variable upon another is of fundamental importance for everyone."

This is rather a bold statement not substantiated by any empirical data. I would ask, Why is the functional idea any more important than the idea of how to solve and apply formulae efficiently? You may reply that in solving formulae we are doing nothing but employing the idea of functional relations and variables. If so, why then bring in the idea of function at all in the first two years of mathematics? Is it not a rather abstract term? While it may be very simple for us who are specialists in mathematics, is it not a little strange and meaningless to freshmen in High School? May I ask again, Is there any other reason for bringing in the functional idea aside from the alleged statement that it is the one unifying idea? Can students grasp the principles underlying the solution of equations better and more economically when presented with this idea as the dominant one than when they are taught by use of the axioms underlying the solutions of all equations? I cannot see that the function concept as explained in detail in the issue of June, 1921, by this department makes the solutions of equations or formulae any easier for the student. It does, on the other hand, introduce another complexity that is not absolutely needed at the beginning stages of teaching equations. The function idea is interesting to mature students when taking up an extended study of equations and formulae in connection with graphs, and should, I think, form a part of their course. But for freshmen and sophomores in High School, simplicity, not enrichment, should be the watchword. Whether the function concept as taught in beginning algebra plays a role in later life or not is doubtful.

(3) My third consideration is the topics to be included in this course. I do not think that the formula should be taught before the equation as is indicated here. If a pupil solves a problem by the use of the formula, $A = \frac{ab}{2}$, before he studies equations, he does it arithmetically, simply multiplying the altitude by the base and taking ½ of the result. The algebraic method, on the other hand, requires substitution or clearing of fractions first and applying the universal axioms which solve all equations and formulae. Let us take another simple formula, $A = \frac{a\,(b+c)}{2}$, suppose in this formula it is required to find c when the other values are known. This is done by simple substitution in algebra and then solving as an ordinary equation; whereas if an explanation in arithmetic were tried, the difficulty and clumsiness would be at once apparent.

As to the number of topics to be included, I would make up a minimum essentials course. Just what topics should be included and which ones left out would be decided by two factors; one, what demands subsequent mathematics and other courses requiring mathematics make, and the other, what topics, by their nature, the student at his age can master.

In agreement with this report, we recognize in our school that there is much unnecessary material in our text books, some of it worse than useless as it serves to confuse the student. In light of this we tried last year a minimum essentials course in 8th grade arithmetic. Its success warranted trying it in the 7th and 8th grades this year with still better success. Next year, we aim to install this method in the 9th year. Under it the student can easily finish his arithmetic in the 7th year, taking up algebra in the 8th year and finishing the usual 1½ year of algebra at the end of his 9th year.

In this minimum essentials course, the student must show an achievement of 100% efficiency. He must pass a series of tests 100% correct, not 70 or 75%, leaving holes in his preparation for later work.

This idea of 100% achievement could be extended thruout the whole High School course in mathematics if we did not have to cover so many topics as we now have or try to cover. If there are any college teachers here, I would ask, Would you not rather have your student come to you in algebra well prepared on a definite number of topics than have them come having passed an examination of 70 or 75% on a larger number of scattered topics? Would you not rather have the freshman in mathematics be able to handle his fractions and the fractional equations with precision and accuracy than be able to do a few of the progressions and the binomial theorem and fail on his fractions and equations? You college people ought to demand a certain definite amount from 1 year and from 1½ years of High School mathematics which is within the possibility of High School students and then we ought to see to it that they get it and get it with 100% thoroughness. To see more clearly the situation now before us, let us take a student entering college or the university, having passed an examination of the usual kind requiring a passing grade of 70 or 75%. Suppose he has been examined on 10 main topics. He is passed into the university if he fails on 3 of these. Now since these are not the same 3 in the case of every student, it would require computation by combinations and permutations to determine how many kinds of preparations your freshmen have that come to you. I ask again, Would you not rather teach variation, the progressions and the binomial theorem after they come to you (These can all be taught in 2 weeks) than have them as at present, ill and so differently prepared?

This is digressing a bit, but coming now to my fourth and last point;

(4) The verbal problem, I shall dismiss it by telling briefly my method with it and then asking questions on it for information. I feel that much is to be learned on the teaching of the verbal problem before it can be said that it is taught efficiently and with economy. My method is to teach a few special types of problems, such as mixture problems, or time distance and rate problems. After 8 or 10 of these types have been mastered well, and not until then, do I throw the class upon a miscellaneous list of written problems. Difficulty is always encountered in these so called verbal problems. My own reaction is that we are attempting them a bit too early in the age of the student, because when he becomes a junior or senior these difficulties seem to vanish. I ask for information, Can a general method of attack be taught or is every problem a special problem? Do we spend too much or too little time on these problems? Can we with no loss to the later efficiency of the High School graduate defer the teaching of these problems to the junior or senior year when the student has more mental power at his command?

My opinions on Geometry have not yet crystallized into any definite conclusions, hence I shall not venture on any discussion thereon.

## Ruth H. Utley, Rockford

The reorganization of the first courses in secondary school mathematics as suggested by the National Committee on Mathematical Requirements is an attempt to plan a course for the first two years of a four year high school.

For such an organization as a Junior High School with unified mathematics of much the same nature as that contained in the report, the course as outlined for the ninth and tenth grades is not of great educational value.

For those school systems in which Junior High mathematics is not attempted in the seventh and eighth grades, for the fear of being radical, and for other reasons, the plan of the committee is a great improvement over the old standard courses of algebra and geometry for the ninth and tenth grades. At best, however, it may prove to be only temporary, as it may be but a short time until the report on Junior High School mathematics, contained in Secondary School Circular No. 6, will be the one generally adopted.

In its attempt, therefore, at a compromise to suit these two conditions, namely the 8-4 and 6-3-3 organizations, it is not a complete success. No one course of study could be made to satisfy such diverse needs as are presented in these two organizations.

Experiments with Junior High School mathematics in many of the larger school systems, have proved that seventh and eighth grade pupils can master many elements of algebra and geometry formerly given in the high school, with a vim and enthusiasm which puts new life into their mathematics work. Each of these new subjects, instead of replacing arithmetic entirely, can be made to furnish ample illustration of arithmetical processes, and provide much excellent practice in the use of them.

There are many topics given in this report of the committee, which are quite within the understanding of pupils in the seventh and eighth grades, and would be of definite value to them. The formula, graph, and equation, all of fundamental importance, in the practical application of mathematics, are topics which we can introduce effectively before the ninth grade.

Such an important mathematical tool as the formula can be made a natural expression of a mathematical truth, if the pupil forms the habit of stating rules as formulas. Surely the seventh is none too early to develop this habit. The logical place for its introduction is in connection with intuitive geometry in seventh or eighth grade, when pupils after constructing geometrical figures such as rectangles and parallelograms, begin to discover certain apparent facts about them as to their area and perimeter, etc.

Is there a more logical place for the introduction of the equation than this when pupils in stating rules for area as formulas are working with equations without knowing it?

The average child does not learn to solve equations of the verbal variety, the former bug-bear of Algebra I, all in a minute. He must be given practice in translating phrases into algebraic language first, and vice versa, before he should be expected to be able to solve problems of this sort. The first two years of the Junior High School is the place for this preliminary and foundational work in equations.

Graphs used to represent statistics and show dependence may well be given before the ninth grade, leaving the application of them as a means of solving equations until later.

The committee, realizing that some of the work outlined in this report can be done by children younger than ninth graders, suggests that the work in formal demonstrative geometry must be preceded by a reasonable amount of informal

work, of an intuitive, experimental and constructive character. I heartily agree with them that the latter "is of great value in itself."

In regard to the algebraic technique, the limitations are well made. The omission of the most complex types of factoring, for which one can find practically no application, is surely welcomed by us all. Nevertheless, much of the remnant of factoring included in the report is now being given earlier in the course and I believe with profit.

All the work in intuitive geometry unless possibly, the last topic, 'simple cases of geometric loci in the plane and in space' belongs earlier than ninth grade, preferably in the seventh grade. Boys and girls of this age love to explore new fields and they become perfectly absorbed working out designs with a compass and ruler. Here again the authors of the report fairly admit they are classifying as ninth and tenth year work, what belongs in the seventh or eighth.

The work in numerical trigonometry is of just the sort which can be fitted into a Junior High School program in the eighth or ninth grade, using tables of values for one or more of the three functions, sine, cosine and tangent. Some object to this on the grounds that it is of no use without tables. Let us grant that, but why not use them?

Demonstrative geometry is best placed in the ninth or tenth year, as given in the report, but it would seem that topic "G" dealing with areas could be taken up in connection with the intuitive geometry in an earlier grade. At that time children can be led to guess the area of a rectangle which they have constructed, and then verify their result for that as well as other figures such as, parallelograms and triangles derived one from the other, by measurement or by using squared paper from which to construct their figures. They will then easily develop formulas for these areas which will have a real meaning to them.

"The inability to appreciate demonstrative geometry," as Mr. Breslich says, "is often because of too little time allowed for experiences that will lead to an understanding of the meaning of a geometrical proof. A pupil is called upon to work with a number of geometrical concepts that are not at all clear to him. Thus he thinks of a triangle, when the theorem states angle. A rectangle represents to his mind a general quadrilateral. Moreover, the whole study seems to him to lack real purpose, because the facts to be established are all such as he would readily grant without proof, and he finds himself imitating or memorizing mechanically work which he does not understand."

As Miss Geegle puts it, "In demonstrative geometry, care should be taken to choose theorems in which the pupil sees something to prove, not self evident facts or assumptions."

I believe it is possible, after a thorough and careful study of inductive and constructive geometry in the seventh or eighth grades to use this as a basis of a senior high school course in demonstrative geometry which would include both plane and solid geometry in one year.

There is also another alternative which seems possible; i. e., that we offer plane geometry, advanced algebra, and possibly trigonometry, for a year's work in the tenth year. Either of these plans provides for the saving of at least a half year.

Thus a three year course in Junior High School mathematics presents the opportunity of elective mathematics in the Senior High School, with the emphasis not mainly on the economy of time, but, on better mathematics with a substantial increase in content. "By the end of the twelfth year," as Mr. Miller indicates "a fair idea of the calculus and mechanics could be given to those in the larger high schools, who might desire to elect mathematics. This would hardly be possible, however, following the outline of the committee.

The mathematics program as outlined in the report is distinctly one of service, "which," to quote Mr. Lundquist, "means, at all times, the encouragement of pupils to consider all of the various questions that arise in their daily activities from the quantitative standpoint, by the application of the simplest usable mathematics at their command."

C. P. O. Mayo, in the Educational Review for March, 1919, says, "Let mathematics primarily be for educating the human mind, and not merely for instruction, or let it make way for some other subject which can play a larger part in deepening the intellectual life and enforcing the moral value of intellectual effort."

In Rockford we are striving to carry out the plan given in Secondary School Circular No. 6 rather than No. 5, for we believe the best place to begin unified mathematics is in the Junior High School. Although ground has not yet been broken for the Junior High School building, which will be one of the finest in the country, we plan to have the work of the seventh, eighth, and ninth grades in mathematics organized as a unit before that is completed.

We have for two years been using a Junior High School series of mathematics texts in the seventh and eighth grades.

A central committee composed of members of the high school and grade school faculties has been appointed to work out several problems confronting the mathematics department.

First, the work of the seventh, eighth, and ninth grades needs to be somewhat reorganized and supplemented in order that the ninth grade work will be a continuation rather than a repetition, for the most part, of the mathematics work of the two preceding years.

Second, this involves the planning of successive courses for the Senior High School, correlated with those of the Junior High School, to be elective for those whose interest in the unified mathematics work has inspired them to continue the particular branches of it which have appealed most to them.

Third, we are planning to start some experimental classes in one or two of the Junior High School grades next semester, using different texts; with a view to determining the best way of approaching certain parts of the work. We also believe that students who fail in a study once would do better in it a second time, if they were given a different text book. It is possible also that we may try this with one class in the near future.

Fourth, we expect to try the experiment, apparently successful elsewhere, of classifying pupils according to their marks, received in earlier grades and their I. Q.

Fifth, having another problem common probably to many high schools, that of suiting our ninth grade work to pupils having had no algebra or geometry in the grades as well as to those who have had at least a half year of each, it is also our plan to arrange a course for each of these groups, for they obviously require different work.

Having the hearty cooperation of our principal and superintendent in this work, we hope in a few months to be making real progress, with the firm conviction that, to quote Mr. Miller, "The pupil who has gained a rich and varied experience through constant application of knowledge is likely to succeed in using his school equipment effectively in new situations in life."

Surely the time has come for the State Department of Public Instruction and the University of Illinois to follow the example of Wisconsin, Kansas, and Minnesota in recognizing a course in unified mathematics as a substitute for the standard course in algebra in the ninth grade or for geometry, in the tenth grade. If an accredited Senior High School accepts the work in unified mathematics done in

the Junior High School and finds subsequent work done by those pupils in the tenth, eleventh, or twelfth grade satisfactory, I can see no reason why the North Central Association should not accept the work of such high schools, regardless of whether the beginning work in algebra and geometry be taught in the Junior or Senior High School building.

## J. R. McDonald, Decatur

In the teaching of mathematics from its elementary forms to its more complex stages and applications it behooves us all to encourage and develop a complete mastery of thoro-going mathematics and to produce real accomplishment as we reach the end of the various stages of the subject. The question at hand, and vital in the discussion of this report may be summarized into first, the general objectives in its teaching and second, the specific content of subject material. The aims as suggested to us are first "to develop those powers of understanding and analyzing relations of quantity and space which are necessary to better appreciation of the progress of civilization, and a better understanding of the universe about us, and to develop those habits of thinking which will make those powers effective in the life of the individual." Secondly, "to give the pupil the most valuable information that he can receive with little reference to succeeding subjects." In the plan suggested the first year is devoted to Algebra, intuitive Geometry and a little trigonometry. The second year's work indicates more Algebra and Trigonometry and a definite program of formal geometry. In essence therefore, a program which may be termed General Mathematics.

Glancing again at the above objectives, an amplification of some of the terms may serve either as an aid or a caution in our criticism of the report. For instance, the "universe about us" implies an understanding of things physical, not only in quality but in quantity and content. An understanding implies not only that so much heat is required to raise a quantity of water one degree in temperature, but also that this may be computed accurately in equational form. The average man knows that he pays his light bill and receives therefore a light in his house. Little does he realize that *so much* current is used up by resistance of wires, and that the amount of current used is computed to his debit. His knowledge is not an understanding but an appreciation. Since the world about us is quantitatively physical and depends upon mathematical computation and measurement we must form our curricula to prevent too much appreciation instead of understanding. In other words encourage thorough mathematics, neglecting none of those essential details which are taught in the secondary schools and which are so relative to succeeding courses and so applicable to the things we see and touch every day.

In the specific selection of content I would highly endorse the more thorough introduction of the graph and its meaning. Also I would urge a rigorous endeavor to bring more verbal problems to the front than I believe are ordinarily dealt with in our schools. This latter certainly is a great lever in developing the thinking habits of our students. Algebra, a means to an end, consists, in a large part, in the manipulation of symbols. This manipulation involves a kind of a technique. This special technique is best acquired by repeated practice or drill in factoring, addition of fractions, solving equations and like processes. I would advocate here including more branches of factoring. In addition to the difference of two squares, or pedagogically, the difference of the squares of any two numbers. I would insert, certainly, the sum or the difference of two cubes. This would make a completion of the work in factoring for two term expressions. I see no reason for being able to factor $x^2 - y^2$ if the process cannot extend to $x^3 \pm y^3$. Because of the numerous problems resting upon the factoring of a quadratic or general trinominal, more thorough work in three term expressions should be included. This is easily accomplished by use of the trial method for factoring all three term expressions after monomial factors are removed.

A certain amount of complex Algebraic fractions should also be included because of the immense value of drill obtained in the fundamental processes of the work in fractions. No one step in the average complex fraction involves more than simple addition, multiplication or division. The same benefit applies to the solving of simultaneous equations, not only in two unknows, but extended to three unknowns. This should be included, if for no other reason, than to further impress the processes of elimination upon the mind of the student. Factoring, fractions and equations are so essential to subsequent courses that a near *completion* of the fundamentals at this time is surely desirable.

In Geometry a great deal of intuitive Geometry is taught previous to the High School work, but a review and an extension of the subject may be presented the first year along with practical problems in Algebra. In formal Geometry, from a time element we must admit that correct methods of reasoning and thought are not as easily grasped as methods more mechanical in make-up. It requires some time for a class as a whole to really develop the habit of logical reasoning. Whether time for this accomplishment is allotted in the program suggested is, to my mind, a question for thought.

In conclusion, it is our purpose, certainly to make the study and teaching of our science thorough even in its secondary stages.

We have no desire surely of making our courses result in a cinema of mathematical possibilities,—our students as spectators only glimpsing the power of Mathematics in the universe about them, with a profound admiration and respect for its importance and accomplishment when in the hands of others. Mathematics is the science of finding out and learning how and it is our purpose to prevent indifference and slovenliness in its use. General mathematics has its place in our systems but we must prevent a similar reaction to that of science at the introduction of General Science, which for a time at least was mostly general. We have a right at the end of the day to look back over our day's progress. After a year or two of the course suggested, where are we? Some of the logical arrangement must be made for an entry into more thoro-going algebra and geometry. For one year requirement a course presenting varied material is possibly preferable. In view of the fact that an increasing percentage of students are entering college each year, for a two year requirement I believe that a more thorough study of the equation, the manipulations involved, and more time to formal Geometry should be advisable. Such a suggestion would probably not vary the present courses to as great an extent as the one recommended by the Committee.

However, in every school we have a group of students who are especially backward in Mathematics and even some who apparently are not willing to spend the effort required. Such a type would probably be benefitted more by a general course than the customary practice and could be eliminated from the more advanced courses, allowing more progress. In other words, a general course in mathematics might serve as a weeding process from our more thorough-going subjects and classes. In our reorganization we must guard against appreciation rather than understanding, a picture rather than a knowledge. To dodge such an event we must not eliminate or neglect those processes so essential and vital to an understanding and a continuance in real thoro-going Mathematics.

## 13. MODERN LANGUAGE SECTION

The meeting of the Modern Language Section of the Conference was held in Smith Hall, Miss Josephine C. Doniat, Chicago, presiding. The first number on the program was a presentation by Miss Doniat of the results of a questionnaire on French texts. The summary of the report follows.

A questionnaire was sent to the high schools of Illinois in order to ascertain what texts are actually read in the first and second years of French. In this questionnaire, Grammars, First Year Books, and Readers are not included.

There were 206 answers received, from which the following information was gathered:

### First Year — First Semester

190 teachers use no reading text outside of a First Year Book, Grammar, or "Reader."
3 teachers use Contes de Fées, by Perroult.
3 teachers use Histoire de France, by Lavisse.
3 teachers use Sans Famille, by Malot.
2 teachers use Le Voyage de M. Perrichon, by Labiche and Martin.
1 uses Contes, by Daudet.
1 uses La Tache du Petit Pierre, by Mairet.
1 uses Le Tour du Monde par Deux Enfants, by Bruno.
1 uses Le Comte de Monte Christo, by Dumas.
La Tulipe Noire, or
Les Trois Mousquetaires, by Dumas.

### First Year — Second Semester

21 teachers use Sans Famille, by Malot.
9 teachers use La Tache du Petit Pierre, by Mairet.
7 teachers use Histoire de France, by Lavisse.
7 teachers use L'Abbé Constantin, by Halévy.
7 teachers use Contes, by Daudet.
4 teachers use Le Tour du Monde par Deux Enfants, by Bruno.
4 teachers use La Poudre aux Yeux, by Labiche and Martin.
130 teachers use no reading text outside of a Grammar, First Year Book, or "Reader."

About 15 books, including Moliere's Médicin Malgré Lui, and Bazin's Les Oberlé, are read by only one teacher each, and are, therefore, not included in the above list.

### Second Year

115 teachers begin the reading of regular French texts in the first semester of the second year. A few, possibly 15, defer it till the second semester of the second year.

Over 150 different texts are mentioned in the answers. These include books of every degree of difficulty and scattered all over the field of French literature.

Only texts that are mentioned by at least four teachers are included in the following lists.

### Second Year — First Semester

| No. of teachers using text | Title | Author |
|---|---|---|
| 68 | Le Voyage de M. Perrichon | Labiche and Martin |
| 53 | L'Abbé Constantin | Halévy |
| 30 | Sans Famille | Malot |
| 31 | La Poudre aux Yeux | Labiche and Martin |
| 28 | Contes | Daudet |
| 27 | Histoire de France | Lavisse |
| 8 | La Tulipe Noire | Dumas |
| 8 | La Mare au Diable | Sand |
| 6 | La Tache du Petit Pierre | Moiret |
| 15 | Colomba | Mérimée |
| 5 | L'Abbé Daniel | Theuriet |

SECOND YEAR — SECOND SEMESTER

| No. of teachers using text | Title | Author |
|---|---|---|
| 47 | L'Abbé Constantin | Halévy |
| 30 | La Poudre aux Yeux | Labiche and Martin |
| 27 | Le Voyage de M. Perrichon | Labiche and Martin |
| 26 | Contes | Daudet |
| 25 | Colomba | Mérimée |
| 23 | La Tulipe Noire | Dumas |
| 9 | La Mare au Diable | Sand |
| 11 | Les Miserables | Hugo |
| 9 | Mon Oncle et Mon Cure | La Brète |
| 6 | Contes | Maupassant |
| 6 | L'Abbé Daniel | Theuriet |

Mrs. Tarpy of Knoxville, Illinois, led the discussion on the questionnaire. Since from the report it was evident that first and second year classes were using texts of widely differing degrees of difficulty, it was voted that a committee be appointed to investigate and arrange a list of texts according to difficulty, with power to publish the report before the next meeting of the Conference if it seemed best so to do. It was also voted that the committee have freedom to mention publishers and editors of good editions of these texts.

The remainder of the morning was devoted to two most excellent papers: "Hints on Foreign Study," by Miss Blenda Olson of Macomb, who has just returned from a year of study abroad, and "Practical Hints on the Teaching of First and Second Year Spanish," by Miss Edith Cameron of the Waller High School, Chicago.

## Hints on Foreign Study

### Blenda Olson, Macomb

To dispose of one's time and resources so as to waste as little as possible of either is a problem that confronts most of us who go abroad to study. Shall we locate in Paris or go to one of the cities of the provinces? Shall we choose a hotel, a pension or a private family? Shall we seek or shall we avoid an English speaking companion? Shall we take private lessons or go into courses offered by the French universities and especially planned for foreign students? These are questions we would fain decide without making a mistake.

Paris, with its charm and associations, its theatres, its museums, its Alliance Francaise and its great Sorbonne naturally makes its appeal. But the cities of the provinces (Clermont, Ferrand, Dijon, Grenoble and Montpellier) less cosmopolitan and more representative perhaps may bring us nearer to *la vie intime* of the nation whose life and language we wish to study.

Since we go over to learn from the French people themselves, it is imperative that we do what we can to come into contact with these, our chosen models. To live in a hotel or large pension is to minimize our chances for this contact. The smaller pension de famille is less objectionable, but here we are likely to meet foreigners who like ourselves speak French imperfectly. If we could only find a cultured French family to take us in, the situation would be more nearly ideal. This is not always possible, nor is it always impossible; especially now that the war has brought about unusual financial pressure. Our soldiers and our correspondence with students or war orphans may give us an entering wedge of intro-

duction. The great stone walls which surround the French home and even forbid a peek at its flowers and the massive doors guarded by the ever watchful concierge seem to symbolize the difficulty of penetrating to its sacred *foyer*. One may, nevertheless, having once crossed barriers find oneself more cordially and affectionately admitted to its intimacy than in any country I know. One must not, however, expect when one goes to France that conditions about one will change or adapt themselves to one's desires. Just because we need contact with French speaking people is not a sign that these will come running to us to offer us their hearts and hands. Nor must we expect to find a French home all that we wish in every particular. Since it is a French home that we wish to see and be a part of, we must adapt ourselves to its regulations often to our sacrifice and discomfort. Our reward is the opportunity to know French life in its intimate phases, to become more thoroughly familiar with customs, ideas, and ideals of French people than by any other means, and to speak French and French only at all times.

Whether we choose a pension, a private home, or a hotel, our chances for learning French will in my estimation, be seriously handicapped if we go over with an English speaking companion and remain in the same town with her. My conviction in this matter was strengthened by a conversation a friend of mine had with the Baroness Huard. You may know her as the author of "My Home in the Field of Honor" and "My Home in the Field of Mercy." An American living and married in France who has met and mastered the problem of learning French. "If your friend," she said, "has the strength of mind to avoid Americans she will learn French. If she hasn't she won't. It does take strength of mind and will, for we are naturally drawn to our own, especially when far away from friends, but those of you who have been over and have tried it or seen it tried will testify with me that that sacrifice too is worth the effort.

"What are you going to do when you get over?" my friends used to ask me. "Shall you study at some University?" I didn't know until I had tried just what I should do. I thought of beginning in Paris at the Alliance Francaise the regular courses planned by that institution for foreigners, and then later going down to Grenoble or Montpellier to get an idea of the provincial life and university. My plans were suddenly changed in Paris so that I found myself at the beginning of my second week in France, at Grenoble, a university city of 80,000 inhabitants, beautifully situated in the heart of the French Alps. I happened to arrive at the office of the university registrar to ask for housing addresses just as that person had received the address of Madame Hutin, wife of a prominent engineer who had died recently. The need of Madame Hutin for someone in the house besides her fourteen-year old son André, added to her reduced circumstances attendant upon the war and the death of her husband had wrought the miracle of opening her spare bedroom to a stranger. Her need for companionship and our later friendship made me an ever welcome intruder upon her privacy and contributed inestimably to my need for speaking French. This opportunity to live *chez* Madame Hutin, and the work offered by the University of Grenoble secured sufficient reason for spending the major part of my stay in France in that city. I must say, however, that I knew of only one other person, a Norwegian, who lived as I did in a private home, none who had been quite so lucky, for it was luck rather than good management.

At the University of Grenoble I found courses especially planned for foreigners in phonetics, translation into French (we translated parts of Philpot's Human Boy and Washington Irving's Sketch Book and Silas Marner in the English to French, Die Wilde Jagd in the German to French, and in the Scandinavian to French a modern Norwegian novel whose name and author I cannot now recall), practical grammar, composition or rhetoric, special study of words and idioms and their histories, and history of France. We had also along with the French students lectures in art, philosophy, history, and the various periods of French literature. Our professors were all scholarly kindly sympathetic men.

They seemed always concerned that we should profit to the utmost, having come so far, to sit at their feet and learn. In general we felt more than repaid I am sure.

When I later went to live and study in Paris, as everyone must do who spends a year in France, I found work of a higher quality and professors more eminent and scholarly, but I was not sorry to have spent six months at Grenoble. I felt that it was there, in the midst of the beauty of the French Alps, in a cultivated French home, working steadily with composition, conversation, idiom, and literature that I had prepared myself for the appreciation of what the Sorbonne and Paris had to offer.

Besides the work I have mentioned I found at Grenoble a profitable help to the learning of French in the system of exchanges which prevails wherever there are foreigners in France. You find through the office or through friends a French person who wants to learn the language you know and exchange with him lessons in that language for French lessons. I liked the system so well that I took two teachers at the University, one who wished to learn German and one who wished to perfect her English. We met at regular stated hours several times a week and took turns at being pupil and teacher. That is, we talked my language one day, and the next day, French. I found that I not only learned things in this way that I should have missed otherwise but also that I gained greatly in meeting regularly a fine ambitious French person in these exchanges.

At the end of the summer vacation term, in February, and in June, the Universities offer to foreigners a chance to earn by examination a diploma. He may try for the *certificat d'etudes Francaises*, or for the more ambitions *Diplome des Hautes Etudes*. The student goes with fear and trembling first to the main office of the university where he gets a slip allowing him to become a candidate for the diploma; then to a remote government "bureau," in a hidden part of the city, where with formality he deposits 20 fr. for the privilege of taking the examination. He here receives a ticket which is presented to the dean on the day of the opening of the examination. On that day the students are ushered in with great formality one by one to a seat before the dean to write in three hours a composition. Subject, "It is not necessary to hope in order to undertake nor to succeed in order to persevere." The next day at nine o'clock we came again and translated a page of English into French. Those who were successful in these two examinations were permitted to present themselves for the oral examination where we read aloud before the professor of phonetics, conversed with the Dean of the College of Letters, and were interrogated in the history and meaning of words and idioms by a gentleman who seems to have ferreted out the history of all the French words and classified all the French gallicisms. I can testify that the anticipation of this examination is a stimulus to learning and that the three days spent in subjecting oneself to it need to be followed by a week of perfect repose.

Grenoble is said to be the most beautifully situated city of its size in the world. It is completely surrounded in the narrow valley of a large rapid river, the Isére by lofty peaks snow-crowned from October till early summer. Another river, that also races through the city and empties into the Isére. The Drac mountains surrounding the city are strongly fortified. If the Italians had joined the central powers they would have made Grenoble one of the first inland objectives. Grenoble is also said to be the cleanest city in the provinces. Its stairways leading up to apartments are not always scrubbed, however, nor is there so far as I know a room with a bath in all the city. Luxury of this sort must not be expected nor must we expect to have a temperature above 58 degrees in our rooms in winter. The thermometer will more often register below than above, especially if a house with central heat. It is best to have a room with a stove, buy your own wood and coal and make your own fires. The exercise if not the heat resulting is warming. Many of the narrow streets of the city give one the impression of cellars that had somehow through the ages got uncovered,

but the streets in the newer part of the city are broad and straight. At the end of any one of these rises a glorious snow-crowned peak. No wonder that Grenoble is the seat of winter Alpine sports and summer excursions. Its scenery and good food are its special luxuries.

The university buildings lack most of the comforts of our smallest colleges. The "Palais de l'Université" which is the most modern building is heated by stoves in some of its rooms, that is to say, is not much heated. There are no cloak rooms, no rest rooms, no place to get a drink. The library is closed except from 9:15 to 11:30 and from 2:15 to 5:30. To take a book from it we had to deposit a valuable article such as our passport or diplomas in the main university office. Each time we took out a book we handed in our name and address and signed a page in a ledger the size of a volume of the Century Dictionary. There were less than a dozen tables in the reading rooms but that seemed to suffice as most people had classes during library hours.

The buildings of the Sorbonne are magnificent in comparison with those of the University. Still I did not see any cloak rooms nor drinking fountains, even there. The library has a special room there for foreign students and though it too is closed a good deal, still it is more practically arranged.

A word about expenses of a trip and a year abroad. Allowing for differences in tastes and the rate of exchange which varied during last year from ten to seventeen francs to the dollar, counting ten francs to the dollar, I found that room and board could be had in Grenoble at from $25 to $40 a month. I paid in Grenoble ten dollars a month for my room, fifteen cents for bread and coffee with hot milk and butter which I bought for a dollar a pound, and forty cents for each of the other two meals. In Paris I paid about twenty-four dollars a month for a room and about fifty cents for the noon and evening meals respectively. My tuition at Grenoble came to about $30.00 for six months. At Paris we paid about seven dollars and fifty cents per month. The fare from Paris to Grenoble is about $10.00. Theater tickets run from fifty cents to two dollars. The trip across the ocean can be made comfortably for from $120 to $210 each way. Board at some of the good pensions in Paris ran from two dollars a day to two-forty. Estimating ocean passage and trip to Grenoble at $280 and fifty dollars for board and room, which is more than I paid, less than some others paid, we have a sum of $450 for board and room for ten months added to a transportation fare of $280 which makes $630, adding a tuition fee of $50.00 we have $680 as the approximate cost of ten months of study at Grenoble and the fare, exclusive of the trip to New York. When the exchange runs fifteen francs to the dollar instead of ten, this price can be reduced by a third all except the steamer fare of two hundred sixty dollars.

## Problems in the Teaching of First and Second Year Spanish; Suggestions

### By Edith Cameron, Waller High School, Chicago

The problems dealing with the teaching of first and second year high school Spanish may be grouped under the following heads:

I. Pronunciation
II. Grammar
III. Dissimilarity of Spanish and the Mother Tongue.
IV. Atmosphere
V. Momentum

## I.

### Pronunciation

I wish to say that I am indebted especially to Professor C. E. Parmenter and Professor Carlos Castillo for many helpful suggestions regarding the teaching of Spanish pronunciation to American pupils. The following suggestions are made on the basis of their teaching and my own experience.

Show the pupil how the vowels are made; then have him practise until he can make them short and clear without nasal quality or dipthongization. Drill at the beginning on the consonants p, t, k, and the fricatives b, d, g; later on the other consonants that differ markedly from any near-equivalents in English. Drilling on one sound each day will produce good results. The pupil should be taught early to read groups of words with expression. Correct syllabication is an important item, if his speech is to have a correct flavor. The mastery of the individual sounds should be followed by drill on the linking of vowels and consonants and by practice in correct intonation.

While drill in pronunciation should never be abandoned, care must be taken to avoid monotony. An interesting connected piece of prose, used as a text for drill in pronunciation, is not apt to become so tiresome as isolated sentences. After the pupil has had careful drill on the individual sounds and has mastered a unit prose passage involving the chief phenomena of standard spoken Spanish, he might be given these slogans;

1—Let the vowels predominate as short, clear sounds.

2—Make the vowels more open than close.

3—Let the consonants, with the exception of r and rr, be softer than in American speech.

4—Open your lips wide and work them hard.

## II.

### Grammar

The American pupil is greatly handicapped by his ignorance of English grammar. You will say; "What about the direct method?" He responds much better to the direct method if he has had a thorough training in the grammar of his mother tongue. As for the comparative inefficacy of the direct method on grammarless students, witness the Spanish of certain *norteamericanos* who have spent years in Spanish-speaking countries.

The size of our classes and the time allowance (in Chicago usually about thirty to a class with five periods a week of forty-five minutes each) combine to make the per capita time per week less than 8 minutes. Eight minutes per week is an overestimate of the time each pupil would have for speaking, reading, etc., provided not a moment is lost. But this does not allow the teacher any time. It will probably be found that when interruptions, pauses, and the instructor's time are deducted, the per capita recitation time is considerably less than five minutes a week. Since it is a question of teaching Spanish under conditions such as these to pupils well beyond the age when brain and tongue respond with maximum efficiency to aural impressions of foreign sounds, would it not seem like a waste of time on the part of both teacher and pupil to try to get along without this vade mecum, this chart and compass, this guide to correct usage?

Now let us assume that our average beginner has no knowledge of the grammar of his mother tongue, that Spanish is his first foreign language, that he shows no aptitude for language study, that his intelligence is normal and his main interest athletics, and that he is about fourteen and a half.

Let us consider in order of difficulty the problems, apart from pronunciation, that will occur:

(1) *Nouns and articles.*

Have the pupil learn in connection with the definite article the names of objects in the class room, such as: "el libro," "la pluma," "el sillón," "la ventana." In a short time he will have found out for himself that "el" and "la" are singular, "los" and "las" plural. So with the indefinite article.

The pupil will naturally ask: Why "el" sometimes and "la" others? A short time ago a beginner made the comment after learning "el muchacho," "la niña," etc., that "–o" is a stronger sound than "–a." The pupil should be encouraged to get into the habit of associating the correct form of the article with each noun.

It is best not to bother the beginner with exceptions. In a short time he will have found out that "–o" is the common masculine ending; "–a," "–d," "–ción" the common feminine endings. Most of the vocabulary for this generalization on his part may be given in sentences, not as isolated words and phrases.

(2) *The Adjective.*

Teach the agreement of the adjective in connection with concrete objects: "El libro es rojo.—Los libros son rojos."

"La pluma es amarilla.—Las plumas son amarillas."

This is a subject in which the average pupil exhibits amazing slowness. The antidote is constant aural and oral drill until he demonstrates spontaneous accuracy in the agreement of the adjective. If he is asked to translate such a sentence as, "The pens are red," before ear and tongue have been trained sufficiently to ensure accurate and automatic response, he will, if painstaking, go through this process: First, he will recall the adjective in general terms: "rojo." Then he notices "are" and will probably write "rojos." Only an excellent first semester pupil would at once write: "Las plumas son rojas."

A device for securing accuracy in the agreement of the adjective. Have each one say: "I am an American," then to one another: "You are an American. He is an American," Etc. If George makes the mistake of saying that he is an American girl or that William is a young American lady, the correction will be apt to make an impression.

Other adjectives that the pupil might be taught to use automatically several times during the recitation are "sentado" and "parado." As soon as he takes his seat, he might say: "Estoy sentado;" on arising: "Estoy parado."

The most mystifying thing in conection with this subject is the pluralizing of the predicate adjective. The juxtaposition of the attributive adjective helps the ear to catch the harmony of the common ending, but when that harmony is interrupted by a verb, George is sorely puzzled. One day he said to me: "What do you mean by calling the books 'Bolsheviki'? "

"I have not said anything about 'Bolsheviki'. "

"Yes, you did. You said the pens were 'Reds'." When I explained that we meant that the books were "objetos rojos," he appeared less puzzled.

With due consideration for George's scepticism, automatic accuracy in the agreement of the adjective can be most readily attained through an abundance of aural and oral drill, and it seems like bad pedagogy to attempt to develop this skill through the translation method.

(3) *Personal Pronouns.*

These may readily be taught in Spanish.

(4) *Demonstratives and Possessives.*

These may be taught in Spanish through association with objects owned respectively by teacher and pupil. The tendency to say "esto libro" or "estes libros" will have to be corrected by much drill.

(5) *Interrogatives*

¿Qué? ¿Quién? ¿Cuál? ¿Cúyo? ¿Cuánto? should be taught in Spanish.

(6) *Relatives.*

Que, quien, cuyo. The pupil should gain an active knowledge of these from conversation and from simple reading. The rest—"el que," "el cual," "cuanto," "lo que"—he should learn to recognize.

(7) *Verbs.*

The verb will constitute the storm-center of attack throughout the first two years.

In order to avoid confusion regarding "you," it seems best to omit the familiar address forms and use only the remaining four. Better results will be obtained in the long run if the pupil is trained to use these four forms at first without any expressed pronominal subject except "usted." If he starts in by using the pronoun subject every time he will have difficulty in realizing its value for clearness and emphasis and will be inclined to use it indiscriminately.

During the first semester the pupil will do well if he learns to use the present tense and the polite imperative of the regular, the common irregular, the radical-changing, and the reflexive verbs.

The present indicative and the polite imperative are suggested as the limit for mastery for these reasons:

(1) These forms may be dramatized by the pupils.
(2) They afford a great variety of action and interest.
(3) They create an atmosphere conducive to automatic response.
(4) This combination is favorable to team work.

The reflexive verb is apt to cause special difficulty for the reason that its use is much more limited in English. To cite a case of glaring misapprehension. After a certain pupil of mine had been trained to head his blackboard work with "Me llamo——," he said one day in speaking of his chum: "Su llamo es Luis." He actually thought that "llamo" meant *name.*

In addition to mastery for use of the present indicative and the polite imperative, the pupil should in the first semester learn to recognize in reading the familiar address forms of these tenses, also the entire perfect indicative. This passive knowledge is suggested for the reason that the familiar address and the perfect indicative are frequently found in folk poetry (See, for instance, María Solano, Cuentos y Lecturas en Castellano.)

After mastery of the present tense for use, emphasis should be placed on the preterite for active knowledge, since it is the conversational tense of past time.

The verb should be mastered completely by the end of the second year.

### The Dissimilarity of Spanish and English

Difficulties in this connection may be grouped under two heads: (1) vocabulary; (2) idioms.

(1) Vocabulary.—The names of common objects sound so foreign to George that it is only by the exercise of faith that he can accept them at all. Why should he believe that *ollas, cazuelas, zapatos* and *medias* mean pots, pans, shoes and stockings? He has no means of associating this new lingo with anything intelligible, and it requires skill, patience and tact on the part of the teacher to keep him from deriding it as mere gibberish. The solution of the problem consists in arousing his interest. Details will be suggested presently.

(2) Idioms.—Among those that puzzle the beginner are: the absence of an auxiliary verb, *to do; ser* and *estar; haber* and *tener;* the use of

many nouns in the plural where the English idiom calls for the singular; the personal accusative *a; gustar* as the equivalent of 'to like;' time idioms with *hacer;* the subjunctive especially in relative clauses. Interest and drill will go a long way towards solving the problem of strangeness of idiom. Details will be suggested under the next topic.

### Atmosphere

Once atmosphere is created interest naturally follows. So crude a detail as the recognition of a Spanish word on the movie screen or in a newspaper advertisement may mark the beginning of a worth-while interest in the language. Current Hispanic news in the American papers, the reading of Spanish papers and magazines, the use of Spanish maps, listening to phonograph records in Spanish and the singing of Spanish songs, all help to create *ambiente español.*

A delightful aid towards atmosphere building is found in correspondence with a Spanish-speaking pupil. This novel experience is not only a source of delight. It widens George's vision as probably nothing else would do. José is so polite, he sends so much novel and interesting information and manifests such intelligent curiosity that George gets an altogether different view point. The Porto Ricans or the Nicaraguans are no longer "Dagos," but just interesting human beings. Could young America receive a more valuable lesson in worth-while internationalism?

Incidentally such an exchange of letters sheds a flood of light on George's linguistic difficulties.

When José wrote; "I have seven brothers, five girls and two boys," and "my fathers names are Mr. and Mrs. García," George realized as never before the potential significance of the masculine plural.

Such expressions as the following, taken at random from José's letters, help to impress certain Spanish idioms on George's mind and at the same time suggest that he himself must guard against transliterating into Spanish:

"Well, this is all what I can tell you by now."

"Do you have any brothers or sisters?"

"Excuse me because I wrote you with pencil, but my fountain-pen got rid of ink."

"Tell me all my English mistakes."

"I thought you had quitted writing me."

"Why don't you send me your picture? I am waiting for it now for a long time."

When intelligent sixteen-years-old José writes as follows, George realizes that he himself probably has much to learn about other countries:

"I never heard about that Chicago fire. It must have been a big one. Please tell me all about it.

"My uncle will take me to the States in March, 1921. One of them is Chicago. I will probably get a great shock, but I am brave and I will not fear to have the snow falling over me, for I will have warm coats to protect me."

Interesting facts about present-day Hispanic achievement may be used effectually for developing atmosphere. Why not give George in a way suited to his years some notion of such outstanding figures as Benavente or Ramón y Cajal?

### Momentum

The generation of momentum may be said to be accomplished if George has acquired in addition to the dictionary habit and the reading habit, enthusiasm for fine things Hispanic.

Great care must be taken to guide him carefully into the Promised Land of real literature. Unless the material used is at all times interesting and of just the right difficulty, he will become discouraged.

In regard to the material chosen for reading, two points must be kept constantly in mind: quality and quantity; quality to ensure continuity of interest, quantity to ensure mastery of technique. So important is the formation of the reading habit that to fail to develop it is to leave the cornerstone out of the building, the keystone out of the arch.

Anything that affords an opportunity for self-expression is a powerful aid in developing momentum. A Spanish weekly published by the pupils is of great help in this connection. George enjoys acting as inquiring reporter or assistant editor. The writing of limericks or nonsense verse gives new zest to his work.

Examples of original verse written by George (or Mabel) for La Pequeña Prensa, a weekly mimeographed paper edited by the pupils of the Waller High School:

La niña es muy bonita;
El muchacho es del Perú
La nina se llama cosita;
El muchacho dice: "I love you."

Hubo una linda casita
En que vivía una señorita.
Se llama Rubí,
Pero a mí
Me gusta la dulce chiquita.

Hubo un muchacho muy flojo
One day,
And what did he do but up and say:
Los profesores son todos muy malos,
Y por eso no recibí ningunos regalos.

I have not said anything about the pupil with a decided linguistic bent. He will take care of himself. Besides, he is the exception. In our unsifted beginning classes it is such as George who constitute the majority. Should he be weeded out? You remember what the greatest of all teachers said about offending "one of these little ones." No matter if George is grammarless and unpromising at the start, if by arousing his interest in Spanish we succeed in making him a better American citizen. Is not the task worth while?

A Spanish questionnaire similar to the one in French was sent out, and 101 replies were received.

### First Year, First Semester

Only one teacher used a text in addition to the regular grammar and reader. This was Valera: El Pájaro Verde.

*First Year, Second Semester.*

| | |
|---|---|
| Alarcón: El Capitán Veneno | 1. |
| Alarcón: Novelas Cortas | 1. |
| Carrión-Aza: Zaragüeta | 2. |
| Escrich: Fortuna | 4. |
| Valera: El Pájaro Verde | 8. |

*Second Year, First Semester.*

| | |
|---|---|
| Alarcón: El Capitán Veneno | 14. |
| Alarcón: Novelas Cortas | 5. |
| Carrión-Aza: Zaragüeta | 5. |

Le Sage (Padre Isla) Gil Blas ..... 2.
Valera: El Pájaro Verde ..... 9.

Fifteen other stories were given, each used by one teacher only, and so not listed here.

*Second Year, Second Semester.*

Alarcón: El Capitán Veneno..... 20.
Alarcón: El Sombrero a Tres Picos..... 2.
Alarcón: Novelas Cortas ..... 3.
Benavente: Tres Comedias Modernas ..... 2.
Carrión-Aza: Zaragüeta..... 9.
Escrich: Fortuna ..... 4.
Galdós: Doña Perfecta ..... 5.
Galdós: Marianela ..... 9.
Isaacs: María..... 3.
Le Sage (Isla) Gil Blas ..... 6.
Mármol: Amalia ..... 3.
Moratín: El Sí de las Niñas..... 7.
Valdés: José ..... 6.
Valera: El Pájaro Verde ..... 7.

Ten other stories were used by one teacher each.

At the business meeting at the beginning of the afternoon session Miss Blenda Olson was elected as the third member of the committee of the Modern Language Section. Miss Whitten of Normal presented the report on the Spanish questionnaire. In the discussion following this report it was voted to appoint a committee to investigate and prepare a graded list of Spanish texts, with the same power in regard to printing its report and naming editors and publishers as had been granted to the committee on French books.

Miss Bertha Ruef of the Bloomington High School then gave a talk on "Practical Hints in Teaching First and Second Year French." This was based on the results of her experience in using the direct method in the class room, finding that the phrase "Dites-lui de...." proves excellent in getting pupils to talk.

Professor Schoell of the University of Chicago then addressed the section in French on the topic of French Reading. Among other things he suggested that many books used in high schools really belong in colleges and universities. On the positive side he approved of including Daudet's stories in reading material for high schools, even though they pictured life characteristic of only a limited part of France. Bazin's "Les Oberlé" should perhaps be balanced by another solution of the Alsatian question as shown in Maurice Barrès' "Au service de l'Allemange." "Le Juif Polonais" by Erckmann-Chatrian, "La Mare au Diable" or "Le Marquis de Villemer" by Sand, and "Au Pays des Pardons" by Le Braz were further suggestions of the type of book most suited for high school reading. Quite apart from these helpful items of information, however, the section felt most grateful to Dr. Schoell for the opportunity of hearing a lecture in French again, an opportunity that comes all too rarely to many of the teachers present.

JENNIE A. WHITTEN, *Secretary.*

## 14. MUSIC SECTION

The Music Section was called to order at 9 A. M. by the chairman, Miss Mary D. Phillips of the University, who had recently been appointed to fill the place of Director J. Lawrence Erb. After the announcements had been made the chairman introduced the new Director of the School of Music, Professor F. B. Stiven, who gave the following address:

### Address of Welcome

### Professor Frederic B. Stiven, University

It is with a good deal of pleasure that I bid you welcome to the University and to this building dedicated to the cause in which we are all most interested. You might perhaps more appropriately bid *me* welcome to the Conference, for this meeting with you who are working in Illinois is a new experience for me, but one which is proving very pleasant, and I hope will be mutually beneficial.

There is no branch of the musical profession in which I am more interested than in the work done in public school music. I think of you people who are engaged in this work as missionaries. You have taken up the most helpful piece of missionary activity in all the musical profession. On you depends to a very large degree the musical appreciation and understanding—even more than that—the musical ability of the next generation.

All educators recognize that the mind is the most receptive in childhood and that the child's mind is capable of retaining impressions which last throughout a lifetime. It is highly important, then, that the fundamentals of a musical education be given every child, that he may at least have the beginnings of an understanding and an appreciation of the art, and may be instructed in the elements of music notation and theory. It is gratifying to know how much knowledge of those necessary fundamentals is gained when the work in public school music has been well taught.

For the past twelve years or more, I have been teaching organ, and during the first few years my work was almost exclusively with beginners on that instrument. These students, however, were all supposed to have had a fair training in piano. I always was particularly careful to question these pupils on points of musical fundamentals which every music student should know, and which are taught in the public school music courses. I very frequently encountered appalling ignorance of even the bare rudiments. Many a pupil knew nothing of majors or minors, could not tell keys, and knew little of note values. I even knew of one pupil who said that he had all the composers up through four sharps! In each case I inquired into the pupil's previous training in music in the public schools and almost invariably it was the student who had not had the privilege of such training who knew so little of those elements which ought to be second nature to the musician. Of course the private piano teacher can and does impart some of this knowledge to his pupils, but there is a woeful lack of it only too frequently. It remains then for the public school music supervisor to give opportunity for every pupil to have this training.

I have no doubt but that the path of your ideals for music in the schools is not always an easy one. The task of convincing some people in nearly every community that training in music is worth while, is one which we all have to undertake. But it is a task well worth the effort, one which pays, for I am sure that we are all convinced that music is a vital factor in the alleviation of unhappy conditions found everywhere.

I want the supervisors of the state of Illinois to know that I am with them heart and soul in every move toward the improvement of music conditions in the

state. I know that you have the greatest opportunity to come into direct contact with the on-coming generation, and I urge you to make the most of it. In co-operation with Miss Phillips I am hoping and expecting to strengthen and extend the course for training public school music supervisors here in the School of Music, in order that we may send out into the state supervisors who are thoroughly prepared to do the best grade of work, who are filled with enthusiasm for the cause, and who will be a credit to the school. Personally I stand ready to do what I can either here or out in the state to further the interests of school music.

I want to take this opportunity to speak of one more thing. Since my first visit here this last summer I saw this splendid University, this magnificent building, these ideal surroundings, when I studied over the curriculum and learned that this opportunity to obtain a thorough education in music is offered the young people of the state of Illinois practically *free of charge*, I have been asking myself the question, "Why is not the School of Music crowded to the doors?" After two months here of working and watching, I have come to the conclusion that it is because the people of the state *do not know* about it. I believe that the vast majority of the young people of Illinois who are casting about for a place to pursue their studies in music, and who too often are deterred from continuing them on account of the heavy expense of music study, have no idea of the conditions under which they may study music at their own state University. So I am going to ask you to help me spread this news. If you know of any talented high school seniors who are contemplating the continuation of their music study, will you not talk to them of the University School of Music, and ask them to write to me? There is a wonderful opportunity here to educate musicians in the broadest and best sense of the word, and I am confident that we are going to make this School a place of which Illinois may well be proud, and one which will become a pattern for other State Universities to follow. Every interest that you will take in furthering these aims will be most heartily appreciated. I am glad to have been able to speak these few words to you, and I bid you again a most cordial welcome.

Since 1918 when Dr. W. W. Charters, formerly Dean of the School of Education, gave at one of the general meetings, "What Has Thus Far Been Accomplished and is Now Available for the Readjustment of School Curricula," it has been discussed on the Conference programs from different viewpoints. Mr. L. L. Carl of the Belleville Township High School gave the following paper, "Music, a Subject in the High School Curriculum Relative to High School Objectives."

## Music, a subject in High School Curriculum, Relative to High School Objectives

### By L. L. Carl, Belleville

The Organizing and Advisory Committee in Curriculum Reconstruction has suggested in its report of November 30, 1920, a study of the Contribution which each subject of instruction makes to the objectives of life.

Last year in my report on History of Music I put forth an effort to establish the necessity of teaching History of Music in High School, by applying the principles of the objectives as then considered in secondary education to my argument. At that time I took it for granted that Music, as an art and as a science, had its place assured in the High School curriculum. Today I shall not take that attitude. In order to study the part that a subject takes in contributing to the objectives of life, we must approach it with a critical mind. We must not take conditions for granted, but be prepared to dissect and examine every part. If

we demand an undisputed place, we must be sure of its power to bring forth educational results, which prove its educational value. The educational value of a subject is evident by its ability to develop certain qualities and faculties in the human mind, which increase individual and universal welfare. Universal welfare is obtained by a high standard of economic, political and social conditions, of which the individual reaps the benefit. The individual should contribute to the cultural and moral uplift of mankind. To make him fit to execute his part, to reach that goal, schools have been established. The school appears to be a workshop, where the young people are taught to realize and utilize the material and the tools which are necessary to build the great pillars of universal welfare: economical, political and social integrity.

The building materials which are being used for that purpose are health, wealth, association, citizenship, ethical character, worthy use of leisure and beauty. The tools are the different subjects within the school Curriculum. We shall not spend any time in discussing the materials. We suppose that the materials examined and tentatively accepted by experts are of the truest grade. We are concerned in the quality of the tools which are being used to affect these objectives. It is our special task to examine the tool which is handed to the student in the form of music. We must be sure that it is practical to put the material into a shape ready to build the three strong pillars of perfect life conditions.

The material is represented first of all by *health*. Music has a direct and an indirect influence upon it. In exercising the voice many parts of the body are put into greater action, which are of vital importance to the perfect condition of health. The exercises which are necessary to develop the voice will also develop the breathing apparatus, the lungs. If they are functioning right, the blood will circulate more freely and give our whole system the correct pitch. The indirect influence of music in gaining health habits and attitudes is found in the electrifying power of rhythm. A well played march or dance will quicken the steps and improve the motion of the body. Gymnastic exercises for the development of the body will be executed in better and more beneficial manner by the accompaniment of a rhythmical piece of music.

Any subject that is taught in High School should have a definite influence upon the *wealth* of the nation. There is no doubt that music is the means of livelihood for many people. Great factories, in which thousands of men and women are employed and which have business connections with many different concerns, have been erected in our country for the purpose of making parts of or complete musical instruments of all kinds. Big publishing companies furnish the performers with the compositions of our musical writers. Every city offers in its special stores all the products for the need of the musical profession. In the theatres, the concert halls and parks many people earn their income by playing in orchestras and bands. Great numbers of men and women throughout the country make a living out of teaching music. All this certainly shows that music is a great factor in the economic life of the nation and that it is important that our young people should be encouraged to study this subject in any form in which it is offered to them.

The most wonderful thing in life is *association*. It means the appreciation of the true relationship of man, woman and child in the home, the neighborhood and the community. Is there anything that will encourage the gathering of the whole family in the home, or the good will of the neighbors, or, finally, the success of all social meetings of the community more than good music? How beautiful it is when one of the family is able to play the old well-known melodies or when by means of a graphophone the best reproductions of the greatest masterpieces are executed in the home. It is music that helps to strengthen the family ties under those conditions and to keep the members closer together. The home, in which music is cultivated is a good example for the neighbors in regard to free and pleasant social relationship. They will be glad to come into the circle, to

enjoy the blessings of music in a real social spirit. The same is true in community life. There too music is able to give a high pitch to the spirit at social and political gatherings. When hundreds of voices join in the singing of national and other songs, when the strains of the band rush upon us, then we are able to appreciate the inspiring influence of music.

The standard of *citizenship* is raised by music when we listen to the stirring melodies of our national hymns. They create a proud confidence in us because we belong to a great nation, and awaken a desire to prove ourselves worthy of the blessings that are ours.

Experience has given proof that music has also an influence upon morals. If we can interest people of base character in music we have often found the means of changing their moral attitude. Music opens the heart and mind for bigger and more ideal thoughts. It helps to mold the *ethical character* of man. Who could listen to those inspiring sacred compositions of a Palestrina or Handel or the symphonic works of Beethoven without being carried to higher spheres on the wings of those rich harmonies and soulful melodies? Who would not be elevated when great artists express in music the most sacred emotions of the human heart?

Everybody should have some time for leisure. It is very important that we spend those hours right, that we are prepared for *worthy use of leisure.* Various means could be suggested for the best and most beneficial employment of that time. Blessed are those who are able to give music the preference. Many men and women spend their leisure time as members of singing societies and church choirs in studying the wonderful chorus works of the famous masters of past and present days. Others go to concerts or the opera, finding recreation in listening to the performances of artists. At the close they all carry with them a lasting and elevating impression and a feeling of satisfaction which prepares them for their daily work.

The keystone which gives a splendid finish to the three pillars of life is *beauty.* Beauty represents everything that is attractive, that is good, that is pure and elevating and clean and moral. Music itself is beautiful, it is a gift of God. In music soul communicates with soul. If we expose ourselves and accept the purifying influence of music, we learn to realize the wonders of beauty and we will be anxious to shape our actions according to the demands of beauty.

Is there any doubt left that music touches all phases of human life, that it has an immense influence upon the economic, political and social interests of mankind? Then music deserves its place in the Curriculum of secondary education. But one question remains unanswered. How must we teach this subject in order to accomplish everything that is expected of music?

It is our task, as high school teachers, to arouse the interest of the young people for the subject. We must not try to turn out experts, but to lay a solid foundation by creating a deep love for good music. In order to reach the goal we must teach it in any form possible. Music appears in two distinct shapes: art and science. Art is applied music, vocal and instrumental. As science it is presented in history of music and theory. As art and science music developes the mental and spiritual powers of man. It trains the child to accuracy, exactness, alertness, attention. It awakens the sense of analysis, it broadens the mind and opens the heart for all that is fine and pure. For that reason all branches of music should be represented in the high school curriculum. In chorus singing we have an opportunity to develope the voice and bring to life the sense for correct intonation. By teaching the folk and national songs we prepare the young people to be good members of the home, community and nation. Chorus singing and orchestra playing will lead them to the understanding of rhythm and the necessity of accurate execution. In teaching Appreciation and History of Music we ought to include the explanation of sound and the elements of music, which will open the students eyes to the beauty of all musical creation and give him

a clearer understanding of the subject. The young people who have the desire and talent to learn the playing of instruments should have the chance to acquire that knowledge, so that a foundation is laid for greater developement after the high school years. They should become the interpreters of the masterpieces for the benefit of those who are not so gifted. The studying of Harmony will develope the sense of logic and sharpen the mind for any difficult task in later years. It may germinate a seed, which, if tended well, may grow to bear fruit in the form of musical compositions for the enjoyment of all of us.

Mrs. Charles Hughes Johnston of the School of Education was unable to be present and the Chairman spoke of the new book "Junior High School Administration" by Mr. Charles Hughes Johnston, which is soon to come from the press of Charles Scribners & Sons. In the chapter on "Education in the New Democracy," the philosophy of Education, Mr. Johnston emphasizes the importance of the aesthetic side of Education, not alone in subjects that are studied for their aesthetic value, but the aesthetic side of all other subjects should be emphasized. To represent the College of Education Dean C. E. Chadsey was introduced. The three main points in Dean Chadsey's address were: Recognition of Music as a part of the school curriculum, second the close connection between the College of Education and the School of Music and, third, the administrative side of Music instruction. Dean Chadsey formerly represented a system of schools which was the first to have a Supervisor of Musical Appreciation.

"A Study of Accrediting Music Courses in Illinois in 1921," a paper prepared by J. Lawrence Erb of New York City, was read by the Chairman:

## A Study of Accredited Music Courses in Illinois High Schools, 1921

### J. Lawrence Erb, New York City

The question of accredited music courses has been frequently, especially in recent years, before this Conference, and many statements have been made with regard to the scope of the courses indicated and also with regard to their number and comparative popularity. The fear has been constantly in my mind that perhaps we were not sufficiently accurate in our statements and that therefore, perhaps we were moving in the wrong direction in planning for the future. For this reason, I sent out in May a questionnaire to every accredited High School and Academy on the list of the University,—449 in all. The questionnaire was as concise as possible and could be answered in nearly every case with a word or a name. There were ten questions, two of which asked for a name, and the rest required only a check-mark and a figure indicating the number of recitations per week; yet, strange to say, only 197 of the High Schools and Academies addressed returned the questionnaire. The remainder were too busy, I fear, closing up the year's affairs; at any rate I have received no reply, though I know personally that music courses are given for credit in some of the schools that did not answer. However, it is not usually safe to go behind the returns in such a case, so I am confining my tabulations strictly to the findings from the returned questionnaires.

Not to copy the questionnaire, I shall state that two questions asked for the names, first, of the Supervisors of Music, if there was one, and second, of any

special teachers of Band or Orchestral Instruments employed by the school-board, if there were any. Three questions related respectively to the teaching *for High School credit* of Harmony, History of Music and Musical Appreciation, with the number of periods per week, and the remaining five referred to the teaching *for High School credit* of Piano, Voice, Violin, Band Instruments, and Orchestral Instruments. The emphasis was, as you see, upon *accredited* courses,—and accredited in the High School, not the University. No information was asked for,—nor desired at the time,—about general music courses or vocal organizations, since these have been pretty well covered from time to time and have had the bulk of the attention in past years.

Confining our attention, then, to the 197 schools reporting, the first item of interest is that 28 schools reported *no music courses at all.*—I might say that, for obvious reasons, the questionnaire was sent in each case to the Principal, so if *you* have been misrepresented, please lay it at the Principal's door: I have accepted the information sent as in every case correct and official, so far as it went. It is possible that by reporting "No Music Courses," in some cases at least, the Principal meant that there were none of the courses about which I had been inquiring. At any rate, here is the list of the Schools reported as without any music courses. If it is incorrect, I should be glad to receive details from any of you who are interested. Remember, please, however, that this report refers to *last* year, not this. The list follows:

This makes a total of 55 schools out of 197 reporting that did not last year give any courses for High School credit in Harmony, History of Music, Musical Appreciation, Piano, Voice, Violin, Band Instruments or Orchestral Instruments, leaving a total of 142 which gave some or all of these. Expressed in percentages, there were not quite 28% that gave no such courses, and slightly over 72% that gave these, which until five years ago were regarded as decidedly unusual courses,—truly a remarkable showing. Whether these percentages would have been materially changed if all the schools had reported, it is only possible to guess. One can only at this writing take the figures as they stand.

I do not want to weary you with lists of names, yet, since the value of this report depends necessarily upon its accuracy, I trust you will pardon any seemingly undue detail in this direction. To take up serially the various features of the questionnaire, the first item has reference to the Supervisors of Music in the schools reporting. Of the 28 schools reported as having no music at all, not one reports a supervisor, even for the grades. Adding these 16 to the 28 of the previous list, it appears that 44 out of 197 reporting have no Supervisor, or at least none for High School Music, a fraction over 22%.

In studying the specific courses, the natural classification into Theoretical and Practical courses suggested itself and was followed. Under the first heading were grouped Harmony, History of Music and Musical Appreciation in the order given. The composite course as suggested by the High School Conference was evidently in the minds of the authorities of a number of schools, for 53 schools reported as giving *all three* subjects and in most cases the total number of hours assigned to the three was 5 (the number suggested by the Conference) or more. In several cases the report stated that the Appreciation was not listed as a separate course but the work was definitely outlined and given in connection with some other listed course, usually History of Music. It will thus be seen that only a trifle less than 27% of the schools are giving *all three* of the standard theoretical courses, and of these, 38, or 19, assigned at least 5 hours per week to the three subjects combined, and 6 assigned 10 or more hours per week. The total number of schools offering Harmony courses, alone or in combination was 88, or 44%, the total giving History of Music, 74, or 37%, and the total listing Musical Appreciation, 84, or 42%, certainly an encouraging showing in the light of University entrance, which accepts 1, ½, or 2 credits in List C in Theoretical Music. One interesting aspect of the case appeared in connection with 4 schools which, evidently unable to provide a teacher within the High School Faculty, were

sufficiently convinced of the value of the work that they allowed credit for the work in all three courses given irregularly. In the case of Auburn and Neoga, the work of outside music teachers was accepted for credit, and in the case of St. Mary's, Chicago, and Marywood, Evanston, the instruction was provided individually. It is evident, however, that the interest in and provision for this theoretical work *within* the regular High School machinery has become widely, almost generally accepted.

The newer field of Practical Music shows some results which are almost surprising. This field has been the debatable ground in music education for a number of years past, and, in the minds of many educators, the matter is still far from settlement, if it is not regarded with suspicion. It is therefore significant of the change which has come over the accredit Piano, 43(21%) that they accredit Voice, and 41(20%) that they accredit Violin, in practically every case, except among the private schools, the teaching being done by "outside teachers," so-called. What this change of front may mean to the private or outside music-teacher it is impossible to foretell, but one might hazard a guess that the "standardization," about which so much ink and eloquence has been spilled,—vainly,—may evolve in perfectly peaceful fashion through the adjustments that normally arise in bringing about the accrediting of outside, practical music.

In connection with the figures just given, some of you may recall that two years ago a report was called for from the floor of this Conference and that 60 or more of the 90 schools represented at the session reported that they gave credit for some form of practical music. But the report on that occasion included Band and Orchestral instruments, and the figures which I shall give for these will provide further data for a fair comparison of the two reports. I shall not at this time attempt to make any comparisons of the two, since neither included more than a portion,—and, presumably the most interested portion,—of the schools of the state. The present survey is meant to provide rather certain specific information which, so far as it goes, is correct and which may form the basis upon which to carry on later *more exhaustive* investigations. So much parenthetically.

Work in the Band Instruments is accredited in 47 and in the Orchestral Instruments in 67 schools, 23% and 34% respectively; while no report was called for with regard to High School Bands and Orchestras or other organizations, 8 schools, all in or near Chicago, reported Bands, and 19 Orchestras. These figures are manifestly incomplete and are not included with any idea that they are representative, but simply to make mention of another field in which activity is rapidly growing. The Band, especially, promises to become as popular and as universal as the foot-ball team.

Where there is so much diversity, it is not to be expected that many schools should offer *all* the courses listed. However, 8 reported that they did so, and two others offered all except specific courses in Musical Appreciation. Since both stated that they offer the Appreciation in connection with other listed courses, it is fair to include them in the list making the number 10, as follows:

| | |
|---|---|
| Roosevelt, Alton | Carl Schurz, Chicago |
| Senn, Chicago | Cicero |
| Morgan Park, Chicago | Galesburg |
| Marshall, Chicago | La Grange |
| Englewood, Chicago | Georgetown |

Since nearly every High School in Chicago and many in the suburban district make a specialty of Bands, the preponderance of Chicago schools in the list just given may be explained. Many of the smaller schools would be included in the list except for the lack of Band-Instrument instruction. It should also be again emphasized that this study has to do only with schools which *accredit* the courses mentioned toward the High School graduation. In a few cases, mention was made of courses given but not for credit. Such schools were, of course, omitted from the lists which have just been cited.

One interesting item of information is that 53 schools, or nearly 27%, provide special teachers at the expense of the school-board in addition to,—or occasionally, in place of,—a supervisor. In practically every case this special provision is for the Band or Orchestral instruments or both. A small number arrange that some person already on the Faculty teach music in addition to other (academic) subjects, but this is necessarily a makeshift arrangement and is soon supplanted by a more efficient one. One school secures a teacher, from outside, for Band and Orchestral instruments and gives credit for the work, but the expenses are met by the students interested. On the whole the tendency toward special teachers for special subjects is in the right direction and makes for greater efficiency. It is obvious that no one person, no matter how gifted, can do all things musical equally well,—nor are there enough hours in the day that one person might cover all. Music teaching will be more respected as gradually the know-it-all-and-do-it-all type disappears and in his place we get the specially trained person who can compare in training and efficiency with the other members of the Faculty.

Because of the necessary limitations of an investigation in which less than 50% of the schools of the state have responded to the questionnaire, it would be manifestly unwise to do more than present the data as they have been provided by the school-authorities and to refrain from any attempt at drawing definite conclusions. The facts presented are sufficiently interesting and inspiring in themselves, without any thought of guessing how they might be modified by further data. When compared with the information available even as recently as five years ago, one can only wonder at the magnificent showing which is made and which is confined to no one portion of the state or one type of community. It is significant that, except for the obvious advantages accruing from a large student-body or a wealthy community, the interest in and provision for thorough music study,—and as comprehensive as the community can afford,—is as active in the small community or the one "fifty miles from nowhere" as in the great metropolis itself, and that the desire for the culture and inspiration which Music gives has seized upon the thoughtful and progressive of the state, no matter what their financial or industrial status or their place of abode. Such a report, if it does nothing else, should afford the utmost inspiration and encouragement to every person who is interested in musical education for the masses and the mission of music in a democracy.

At the close of the paper the following High Schools represented were added to the list given by Mr. Erb:

*Harmony*

Mt. Olive — Urbana
Lawrenceville — Henry
Mt. Morris — Paris
Newman

*History*

Rankin — Nixon Tp.
Mt. Morris — Lawrenceville
Waukegan — Newman
Momence

*Music Appreciation*

Mt. Olive — Downers Grove
Mt. Morris — Henry
Highland Park — Newman

*Piano*

Urbana — Waukegan
Bloomington — Mt. Morris
Stanford — Henry
Lincoln

It was also found that some of the high schools represented as giving credit for violin, were only given credit for work in the Orchestra as a class.

A short business meeting followed. The Conference voted that Miss Mary Maguire of Alton and Mr. H. W. Seitz of Peoria become members of the Conference Sectional Committee to fill the places of Miss Mabelle Glenn and Miss Edna King.

The Conference also voted that the chairman should disband the Committees on History, Appreciation, Prerequisites, Chorus and Orchestra, and Harmony. These committees have been at work for the past four years and each year have given valuable reports of their work.

### Afternoon Session

The afternoon session was called to order by the Chairman at 2 o'clock. After a few announcements, Mr. Osbourne McConathy of Northwestern University was introduced and presided for the remainder of the Session.

The first subject introduced was "Value of Music Memory Contests." This was introduced by Miss Louise Bear of Decatur.

## The Music Memory Contest

### Miss Louise Bear, Decatur

I have been asked to open this discussion by telling you of the Music Memory Contest that we have held in the Decatur High School. The first contest was held a year ago last fall. Just now we are working on the second. The lists of fifty numbers each were taken from those sent out by the National Bureau for the Advancement of Music of New York City. They were given to the pupils the latter part of October, and the final contest last year was held on the evening of December 10, giving the pupils six or seven weeks to prepare. The papers of the city were asked to publish the list on the music page of the Sunday paper and to co-operate with us in helping create an interest in the contest in the city. One paper had a fine editorial on the contest and both papers published articles from time to time about the progress that was being made. Three prizes were offered. The first prize of $15 was given by the Decatur Musical College, the second, $10, by one of Decatur's wealthy men who is much interested in music himself, and the third, $5, was offered by one of the music stores.

Of the fifty numbers on the list we have a large number on the victrola, a number on the piano player, and also a good many in the high school song books which we use in chorus. During the time the contest was on, some time was taken frequently in the chorus period to play one or two pieces and, of course, the songs in the book were used as a part of the chorus work. The music for assembly period during that time was taken from the music memory list. Some of these numbers were given by the high school orchestra, the glee clubs, or by individual members of the school. Outside talent was secured, also, to assist on some occasions.

One of the music houses which sells the Antico Piano Player and also the victrola, and which has a beautiful store, gave us a program one evening made up entirely from the music memory list. The picture houses and theaters which have good orchestra, and the church choirs in the city were asked to play them as they could. We had the co-operation of everyone who was asked to help. The pupils were allowed to use the victrola and piano player during the lunch period and after school and at any vacant period they had. Some of the pupils who play, bought most of the music and learned it at home.

It may be of interest to know that the first and second prizes last year were won by girls who were not studying music at that time, and who had never done much serious study. The final contest was given by the best talent in the city at an evening contest. Twenty pieces were played out of the fifty. Twelve papers out of the thirty-five who took the finals were almost perfect, and it was necessary to give several extra numbers before the prizes could be awarded. This year the prizes will be given by the James Millikin University, the Decatur Musical College, Mr. Powers, and the Emerson Piano House. They will be as follows: First prize, $10.; second prize, $5.; third prize, $3.; and $10 given in prizes of $1 each.

Nothing the music department in the high school has ever done has been of more value than creating an interest in good music.

After Miss Bear's paper a discussion followed in which certain questions regarding the necessity of having two contests, one for grades and one for high school, were brought forward; also the methods used in case of ties and the best way to have songs given in the final contest. As a result of the paper and the discussion, the Conference agreed that memory contests were a great benefit to the children but even more for the community.

The next subject, "The Place of Instrumental Music in the High School" was introduced by Mr. H. W. Seitz of Peoria.

He presented an outline of a scheme of instruction in instrumental music as given in the Henry High School under his direction. This included class instruction in the instruments of the orchestra and band as well as ensemble playing. Pupils in instrumental music were required to take class work in harmony and appreciation.

This was followed by a discussion from Mr. G. H. Wilkinson, Principal of the Lyons Township High School at LaGrange. Mr. Wilkinson had just come from the Administrative Section where the "extra curricular activities in high school" had been discussed. He was able to give the plan worked out in his own high school for this.

## Band Music in High Schools

### By G. H. Wilkinson, LaGrange, Ill.

It has been said that the most progressive school systems have been developed on the Atlantic and Pacific coasts. We know that the greater part of the history of education in the United States can be learned by studying the history of the Massachusetts School System. On the Pacific coast, however, we find a development along other lines. In California, for example, higher salaries are paid than in the east, and the requirements for teaching in high schools are more rigid. Here, too, we find an unusual development along musical lines.

For a number of years the Board of Education in Oakland, California, has supported a system of instrumental music, including bands and orchestras, that has made that school system a leader. In 1917 the Board appropriated $5,000 for the purchase of additional band and orchestral instruments. Their policy was to buy the large and exceptional instruments, which students would not care to purchase. Five special teachers of instrumental music were employed in the grade schools and four more in the high schools. These teachers were qualified

to give instructions on all the instruments of both band and orchestra. At that time there were 19 bands and 27 orchestras in the 40 different school buildings of Oakland, California.

I have mentioned the activity of this city in instrumental music to indicate the possibilities. In the Middle West an interest in high school bands and orchestras is growing rapidly. There are many reasons why this movement should be encouraged. It has been said that the aim of education is to prepare our students to be useful and to be able to enjoy their leisure. A student who has some art to which he can turn in his leisure moments is fortunate. In a special sense band music is an "indispensable subject in the modern elementary and high school curriculum for it trains for the leisure activities as well as for vocational activities." Many instances could be given of boys who have earned part of their way through college by means of band music.

A more sentimental reason, perhaps, is that we want our students to be prepared to associate with the graduates of other high schools on equal terms when they enroll as freshmen. We want them to be ready to accept a position on the college paper, the debating team, the football team, and in the band and orchestra. The graduates from the Lyons Township High School of LaGrange, Ill., have been successful in college activities; for example, one of our students was on the Dartmouth debating team, one has been chosen captain of the freshman football team at Leland Stanford, and another is playing solo cornet in the band at Harvard University.

In 1914, the Board of Education at LaGrange bought twenty second-hand band instruments at a cost not exceeding $500 with the understanding that the Principal was to instruct the band. These instruments were assigned to boys who knew how to read music. The first few weeks were the hardest. Rehearsal consisted mostly of discords, etc., but after three months the band could play four easy marches and an overture. There was one thing accomplished: twenty-five boys learned to play instruments who otherwise would not have attempted it. That is the reward of an instructor who gives his time to beginners rather than to working with an old organization. During the eight years at LaGrange that the band has been in existence over a hundred boys have learned to play.

Last spring after an experience of eight years the band numbered fifty-two members with the following instrumentation: 12 clarinets, 2 piccolos, 12 cornets, 4 altos, 6 trombones, 2 baritones, 4 tubas, 3 drums, 6 saxophones, and a leader. The cornets were divided as follows: 4 solos, 4 firsts, 2 seconds, and 2 thirds. The clarinets were divided into 4 solos, 2 firsts, 2 seconds, 2 E flats, and 2 C clarinets playing oboe parts. The saxophones consisted of two sopranos, two altos, one tenor, and a baritone. This arrangement was found to be very satisfactory, two copies of a march supplying each member with a part. The wood-wind section, consisting of 12 clarinets and 6 saxophones, made a fine effect when used alone on the soft parts. In marching, the best arrangement was to place six men abreast, starting with the trombones, then tubas and baritones, saxophones, drums and altos, wood-winds, cornets.

By a popular subscription among the citizens of LaGrange money was secured to purchase uniforms, which are the regulation blue with gilt trimmings. They were bought from the Western Uniform Company of Chicago through Mr. King, who has had many years of experience in furnishing bands. When the band plays at football and basketball games from $5 to $10 is allowed by the Athletic Association for the purchase of music. This money, with returns from a few engagements during the year, is sufficient to pay all expenses. Last year $80.00 net was cleared by a popular program and dance. The total equipment today, consisting of uniforms and instruments, is worth about $2,000.

The best time to have rehearsals is during school session. If rehearsals are held after school, other activities interfere and make it impossible to have every one present. By a plan of class rotation at the LaGrange High School a way

has been provided so that the band can practise from 12:15 to 1:00 o'clock. Every day after lunch we have forty minutes, called the Drill Period. Students at this time report for study as follows: Monday to their first period assignment, Tuesday to their second period assignment, etc., on Friday the fifth and sixth periods alternate. Students who play in the band or orchestra or sing in the glee clubs are excused from these study periods. The band rehearses Monday and Wednesday; the orchestra, Tuesday and Friday; and the glee clubs on Thursday. In this way every member can attend rehearsals without conflict. If he is failing in his studies, however, he is required to drop his music.

One of the most difficult problems in connection with high school bands is the selection of proper music. The clarinet parts must not be too high nor too difficult. Saxophone parts should be supplied with each selection. We have found the following sets of books to be satisfactory and one set has been used during the first semester:

Collins Military Band (Elementary)
Par-Excel Band by Huff
The Utility Band Book No. 1 by Jewel
The Promoter's Band Book by Keifer
Melodie Band Book by King

Some of the best easy marches are:

Royal Welcome by Rosenkranz
Endeavor by Huff
Tramp by Jewel
Colonel Miner by Rosenkranz
Mothers of Democracy by Panella
Glorification by Rosenkranz
Peerless by Huff
Scoutmaster by Biglow
Return of the 47th Regiment by Bryant
Colonel Roosevelt's Rough Riders by Laurendeau

A list of more difficult marches is:

Black Jack by Hoffer
Olevine by Vandercook
Quality Plus by Jewel
Invercargill by Lithgow
Our Defender by Seitz
Spirit of Peace by Kiefer
On the Square by Panella
Our Fighting Men by Rocereto
Washington Graves by Grafulla
On the Western Front by Hildreth
The Huntress by King
The Little Giant by Moon
Salutation by Seitz
National Emblem by Bagley
Nahant by Thomas
Billboard by Khlor
Old Comrades by Teike
Chicago Tribune by Chambers

Some easy overtures and selections are:

Determination by Hayes
Sincerity by Barnard
The Iron Count by King
Symbol of Honor by Skaggs
In Camp by Dalbey
Homeless by Arthur
The First Heart Throbs by Eilenberg
Sunrise by St. Clair
The Elves by Keifer
Mignonette by Baumann
Operatic Mingle by Berry
Troubadour by Myers
Chinese Patrol by Filege
Belmont by Buhalts
The Glow Worm by Linckle

Some difficult overtures are:

Sky Pilot by Laurens
Dramatique by Dalbey
Mill in the Forest by Eilenberg
Light Cavalry by Suppe'
The Altar of Genius by King
Bohemian Girl by Tobani
Al Fresco by Herbert
Royal Pageant by Barnard
Princess of India by King
Orpheus by Offenbach
The Golden Dragon by King
Southern Memories by Hecker
Rococo by Meyer-Helmund
Lustspiel by Keter-Bela

Perhaps, a word about the leader should be added. If he can play a cornet he is fortunate because many instruments in the band are played by the same principle of fingering. Again, there will be occasions when the leader will need the support of a strong cornet player. If the instructor can read in the bass

clef he can give instruction on the double B flat bass. A playing knowledge of the slide trombone, clarinet, saxophone, piccolo and snare drum will be valuable, for new members must be prepared to take the place of those who graduate.

In conclusion, we are heartily in favor of bands in high schools because they offer an opportunity to develop an art which can be used both in one's leisure moments and as a vocation. The experience of playing a wind instrument is healthful and it has often been demonstrated that players of wind instruments live to a good old age. Another gain to the high school student is the experience gained in co-operation with his fellow students as they play under the direction of a leader in co-ordinating all the parts of the band. To the young freshman, especially, who is too young to play on the athletic team, it offers an opportunity to participate in school activities and thus become an important factor in the life of the school. These are a few reasons why the high school bands are becoming popular.

The next speaker was Mr. Otto E. Graham of Waukegan who spoke on the "Development of Instrumental Music."

## The Development of Instrumental Music

### Mr. Otto E. Graham, Waukegan

We have our three R's in general education and we have our three T's in musical education. It is these three T's that we must develop. They are: Tone, Technique, and Temperament.

The first two mentioned have not suffered to such an extent as the last. Technique in music means the proper use of the hands and the voice coordinated with the mind. How do we gain perfection in Technique? It is gained by many hours, days, weeks, months, and years of practice. One of our leading musicians has said, "Practice on any instrument will produce a technical efficiency which can easily be matched by modern mechanical science, but scientific reproduction cannot supply the intellect so essential to the real interpretation of art in its truest form."

Personality is a leading force in music, and is developed through association, whether it be with people, or with greater knowledge. As we all know, music is the greatest medium by which people can be moved. It has a wonderful magnetic power; thus, if one lives with good music, he will learn to appreciate good music and have higher ideals of life. But live with poor music and soon he will mistake it for good, and his ideals will vanish as the pure white snow melts away from the rays of the sun.

What is the poorest of music? If music it can be called, "Jazz." I herewith quote what some of our leading writers have said regarding this phase of modern life. Zane Grey, in one of his latest works, has this to say: "Listen to the gibberish of jazz. What does it mean? It is the slang of ultra-modern youth—the accompaniment of indecency in dress, in talk, and in behavior. We have given our young folks freedom; we are seeing it fail as they dance hellward by the jazz route. Now it is time to wake up, to get back to *pre-war morals.*"

"Jazz," as Grey has said, is indecency in everything, but when the word jazz is heard, it is associated with instrumental music, which co-ordinates with the modern dance.

In a recent article in the Chicago Tribune, Edward Moore describes in a most forceful manner this form of instrumental music, and herewith I quote his words, because I feel that it has a direct bearing on the thought I am endeavoring to portray. He says in part: "A few nights ago I had occasion to watch proceeding from the side-lines of one of the city's smart restaurants, one where

music sounded constantly, both for a professional show and the dancing of the guests. A fairly retentive and reasonably long memory revealed no period where the tunes were so flat, stale, and unprofitable, so unsparkling, pepless, and altogether dreary as at present. Each one sounded like a dozen others, with the curious result, that they were all as difficult to remember as though they had been Operatic Arias.

Popular music means dance music these days. The up-to-date orchestras are permanent enough to work out their own dance numbers and then have them published and recorded on the waxen disks. Thus is their music spread. The five who can play the piano buy sheet music, and the *five thousand* who own phonographs buy records. This, I imagine is a fair average.

But there is a disconcerting tendency toward standardizing popular music, and that in the direction of an imitation orientalism, irritating because it is so obviously imitation. The cymbals clash, the E"flat clarinet emits a startled yelp, the Siberian buz-fuz, or whatever its name is, groans and chatters. Above all, the drums keep up an unending thrum. I fully expect to see announcements of the Brahma putra Blues as played by the Jejune Jazz Jackeroos, and the Turkestan Toddle by the Babylonian Balderdash Boys. But I know when that time comes, the tunes will be neither blues nor toddle, and certainly not Oriental. This is not to be construed as the lifting of a scornful eyebrow at popular music as such. There has been and there will be plenty of popular music that is *sincere* and *joyous* and *inspiring*. It is at a low ebb just now, but there is comfort. When it changes, as it must, it will be for the better. It cannot change in any other direction, not and remain music.''

In drawing a conclusion from Mr. Grey's and Mrs. Moore's words, we shall call ''Jazz,'' which is pernicious to high ideals, the negative goal, and the three T's the positive goal with the Symphony Orchestra as an ideal. This does not mean that every one will be a virtuoso or some great symphony player, but it does means that the greater per cent will have developed a sincere appreciation of good music.

Now, the big question is, ''How shall it be accomplished?'' First, the study of music should be made a compulsory part of every child's education, in the Grammar School and through the High School. At the earliest possible moment, we should bring the students to the realization of the connection between the elementary work and the finished music. We want constantly to be conscious of the fact that we are trying to develop musicians, and not merely technicians; musicians, that will not only feel what they are doing, but will have the power to enthuse and inspire others. Musicianship does not mean the command of technique. It has a broader conception, and that is, permeating everything we do or feel in life.

Theory is indispensable to the development of musicianship. Students must readily understand all symbols and terms of expression if they are to be expected to give an intelligent reading of a score. Knowledge of theory with the necessary amount of ear training will develop appreciation; the greater the appreciation, the greater the inspiration; the greater the appreciation and inspiration, the greater the power of interpretation.

How much should we expect to be accomplished by the end of the eighth year of the elementary school? I would say that students should have a general notion of what constitutes good music and also to know the fundamental points of elementary theory. That is to say, they should be able to distinguish a whole step from a half step audiently as well as by notation. They should recognize immediately any one of the fifteen key signatures, whether major or relative minor. They should be able to distinguish between major and minor mode, they should know the construction of the major and minor scale and should be able to sing at sight, by syllable, letter, number, or any given syllable, such as la, loo, le, etc., any piece of music rating in difficulty with the ordinary hymn tune. They should also have a knowledge of the most common terms of expression.

Classes should be organized in violin, piano, clarinet, or a class for any other instrument that might be in demand; but by all means introduce piano and violin classes early in the grades.—Shall we say the fourth or fifth?—Then continue through the grammar school.

Now, what do we have, and what should we have to offer these students when they enter the high school? I previously stated that music should be made a compulsory part of the high school student's education, and rightly so it should, if we wish to develop a musical America. This brings us down to the point where I am forced to trespass on another field of thought, and that is, a course of study. However, a course of study is as essential to the development of instrumental music in its higher and broader conception as the electric globe is necessary to the production of light from the electric current.

One unit credit in music should be required of every student that receives a diploma from the high school. The student who is interested in music should be allowed and required to take four units credit as a maximum for the high school diploma, if he should so elect music as a major subject. This will give the student extra time for his professional ambition and also give him the benefit of a general education. It will call for a rather varied course of study to meet the demand for the mass, but this should cause no great complexity. For instance, we may introduce a violin class, a sight-singing class, a clarinet class, harmony and history of music, orchestra, band, chorus, glee club, etc. I see no reason why all subjects could not be elective, allowing each student to have his own choice of interest. Harmony and history of music, however, should be required of the student that elects music as his major.

It is not to be expected that the high school music course will correct all the faults and turn out finished musicians. But such a course as previously stated, will put music on a par with other subjects where it has a right to be. Take mathematics for instance. During the four years of high school, the student will have had arithmetic, algebra, plane geometry, and probably solid geometry, and trigonometry. What has he gained? He has gotten the fundamental principles of elementary mathematics so that when pursuing a college or university course, advanced work is taken,—college algebra, trigonometry, calculus, etc. The time is spent reaching a higher perfection. How different is the situation of the music student. What has he received in the four years of high school? Practically nothing. He has to start his high school work in college. If interested in vocal music, he starts in a sight-singing class, if interested in instrumetnal music, he starts lessons on the instrument of his choice. Probably the subject of harmony and history of music are unheard of subjects to many students before they enter college.

Sight-singing and instrumental classes should be in the high school; harmony and history of music should be in the high school; symbols and terms of expression should be taught in the high school; appreciation, inspiration, and interpretation should be developed in the high school.

These things done, the student goes to college or university to continue the study of music. He will enter advanced sight-singing classes, advanced instrumental classes, advanced harmony, college history of music, counterpoint, instrumentation, orchestration, form, etc. Then he will be on an equal plane of perfection in his profession as the mathematician.

This program as outlined has been partially introduced in Waukegan Township High School. At present, we have a class in harmony and history of music, two violin classes, a clarinet class, chorus, orchestra, band, and glee club. We are hoping to introduce more music courses next year.

This was followed by that of Mr. E. B. Brockett of Herrin.

## Instrumental Music in the High School

### Mr. E. B. Brockett, Herrin

With the broadened views of secondary education today, music is given a footing in the curriculum never to be replaced. The fourth essential of life is no longer considered by school officials as a tolerable diversion with which to vary the program and to draw crowds to school functions, but is accorded a deserving place in our educational scheme.

Assuming that the aim of the high school music department is to produce as far as possible, a musical citizenry, and promote extraordinary and promising talent, instrumental instruction is instituted to round out the musical education of our youth.

This branch of music in the high school deserves careful consideration. Based upon the experience of a host of pioneers in the field of school music as well as a sound psychology this latest departure in musical education is worthy of the attention of all school people.

Every student in school may be considered as a potential musician or a potential musical subject. That is to say that the student body may be divided into active performers or passive listeners. There can be no limits as to the extent of either group. Then the whole school constitutes the field of endeavor.

The accomplishment of a fair technique on a musical instrument is coveted by the average boy or girl of the high school. The social prestige, the group participation, and to the more musically ambitious, the self expression—all present an inducement to the student to take up and study toward a degree of perfection, some of the commonly used instruments.

With these facts before us and convinced of the worth of the cause it remains for us to discuss methods of procedure in organizinig and maintaining instrumental instruction in the High School.

However, before proceeding further it will be best for us to limit our term "Instrumental Instruction" to mean specific training on an instrument toward participation in some of the school musical organizations. In most high schools the term means directed practice in ensemble playing, the specific training in the technique of the instrument received from private teacher outside the school. This varies in the different schools from a meeting of once each week to that of classes meeting daily in school hours and receiving credit toward graduation. Some of the more fortunate schools have instructors who, in or out of school hours give lessons free or at a contract rate to the members of the classes in band or orchestra. This is the approach of the ideal. Whatever the arrangement, class work is the representative product of the schools.

Beyond the routine of rehearsing and class management the director or instrumental instructor is confronted continually with three moving problems. The first of these problems is that of recruiting the ranks of the organization. In the ordinary high school student body there is about one out of every twenty students that can perform with some skill on one of the more common symphonic instruments, the piano included. Where there has been strong departmental work in the grades, there may be an additional one in the twenty that can perform on an instrument or who would take up and study to a degree of perfection one of the band or orchestra instruments. But the problem is simplified to a most satisfactory circumstance if instrumental instruction has been given in the grades under school management. Even tho it be only the violin that is offered in class, this alone will prove a source from which three-fourths of the orchestra may be recruited. Class instructed pupils are acquainted with routine, and concert reading and playing. It is not the purpose of this article to champion the cause of free violin instruction in the grades, but the violin classes were referred

to as the best place to recruit an orchestra for the high school. The private studio then comes into place as the demand for further study is felt.

If there has been no definite training in the grades and the high school does not afford a teacher then the director must proceed single handed for a while. But with an unquenchable enthusiasm and proper cooperation we have all seen wonders accomplished in a short time. There is more accomplished in directing and controlling interests of our boys and girls than there is in trying to work out a too definite and stilted course of study in some particular phase as important as that phase may be.

The second problem that confronts the instrumental department from time to time is that of widening and balancing the instrumentation of our organizations. The instrumentation should approach that of the best organizations of the day. If there is a preponderence of one kind of instrument, some of the players may be shifted to other instruments. It is possible and logical to move from strings to strings, from reeds to reeds, from valves to valves and so on. Here is a place to take time by the forelock. There are peculiar and interesting traditions clustered about the instruments of the band and orchestra. If we should heed all the advice volunteered by those who move in mysterious ways their wonders to perform, we should never think of making a viola player or a cello player directly from a violin player under three or four years, we should never venture to make a horn player from a cornet player and so on. Our schools have waited too long for the private studios to find and finish the talent of the community. It is the school's place to find material and after a tryout if worthy, encourage further study in the studio. We have seen a surplus of violin players transferred to different instruments and in a short time accomplish a great deal with the help of out of school study. Then rather than be hampered and half to do a good thing let us widen the instrumentation as far as possible so that the boys and girls in our charge can get all that is due them from the group of which they are a part. Strive to have an orchestra of concert dimensions.

The next problem that the high school instrumental director must meet and solve is that of repertoire building. Assuming that a sufficient preliminary workout has been given to insure proper tone production and control the next step is that of procuring suitable selections primarily as vehicles of instruction and secondarily as concert numbers. This one fact must be borne in mind—that the degree of excellence of performance is determined by, and commensurate with, the ability and appreciation of the players. To raise the standard of one we must raise the standard of the other. Sometimes we see high school orchestras attempting performances beyond the abilities of the several players, but more often the reverse is true. In this day of mechanical reproduction of all the great music there is little excuse for our failure to acquaint our classes with excellent performances of many of the selections we would attempt. Does it not behoove us to strike to the bottom of the subject, seek out and bring before those we lead the best the times can afford? With the many fine editions of standard words is it not our duty to afford our organizations the pleasure of attempting a master work? Do other departments of our school hesitate to quote and study the master minds? Then why should we hesitate to attempt the interesting and playable works of the masters in music?

Finally, if our hopes and aspirations are to be realized fully and to a lasting degree, we must infuse with all of our instruction a dauntless courage in trudging ahead and at last a pride in the performance. It is the same pride as winning a game honestly and confidently. Let us send young people away from the high school with a rounded knowledge of what is good and great in instrumental music. Let us send them away still anxious to continue their training and performance. This done the school shall have accomplished a great step toward building a musical citizenry.

The discussion that followed resulted in the Conference asking that a Committee be appointed with Mr. G. H. Wilkinson of La Grange as Chairman and Mr. A. A. Harding of the University as an advisory member of that committee, to interest supervisors throughout the State to attend this Section next year with a special conference and luncheon to discuss the problem of the Band and Orchestras.

The next subject of "Boys' Glee Club" was opened by Miss Ellen Sargent of Anna. Miss Sargent told of her experiences in organizing a Boys' Glee Club in a smaller high school where there had been no instruction in sight reading in the grades. She soon found that the beautiful music she had selected for them had to be put aside and her first goal was to arouse a desire to sing music better than "jazz." Some school songs were arranged to college tunes, and kept especially for the Glee Club. This was the first step. Gradually they branched out into part singing. The Laurel Glee Book published by C. C. Birchard, Boston, proved to be the solution of all the difficulties in the second year of work and instead of disinterest, the second year found twenty-five interested members.

In the discussion which followed Mr. Hubert S. Conover thought that one of the most important problems before the Conference was the study of material. The Conference voted for the chairman to appoint a committee and a report to be submitted next year for the study of Glee Club material.

The last discussion "The Advisability of a Circuit for Obtaining Better Artists for High School Performances" was introduced by a paper by Miss Clara T. Dailey of Peoria, read by the Chairman.

## "The value of having a circuit whereby different towns in the state may be able to procure better entertainments for the Schools".

### Miss Clara T. Dailey, Peoria

Since I have suggested this subject it seems to have been passed on to me. The idea of establishing a circuit, or several circuits, thruout the state for procuring high class artists to appear before our schools occurred to me after having had several years experience with our so-called artists' series of concerts in our High Schools.

The plan as now carried on in the Peoria schools has taken several years to organize. It was necessary in the first place to have the co-operation of the Superintendent of Schools and the Board of Education. The plan for such a series was voted on by every member of the Board and has the support of each member. We have received such hearty support from the High School principals that the concerts are given *during school time.* One regular period during the day is given over to these concerts. An admission of ten cents is charged and it is optional with the pupil whether he attend or not. Since he must go to the study hall for work, if he does not attend the concert, it is readily seen that the

average high school student will pay ten cents to keep out of the study hall for an hour. We always have a full house.

These concerts are not given with the idea of making money. We just wish to come out clear. But in every case a very nice little sum has been cleared which, of course, helps to swell the fund of the music department.

We have had the wonderful combination of Myrna Sharlow, Isaac VanGrove, and an Italian cellist. Last year we had Miss Ludwig, harpist, Herbert Gould, basso, and the Zoellner String Quartette. This year we had Margery Maxwell, of the Chicago Grand Opera Company, in October. We shall have Vera Poppe, cellist, in December. Between January and April two more concerts of the series will be given.

You are probably asking, inwardly, how do you get these artists at rates so that you need only charge ten cents to the students?

When these artists come to Peoria for an evening concert they are very willing to stay over the next day, (providing their manager knows in advance) for a concert in each of our two High Schools.

The big artists are altruistic and give of their time to these young people for very little in monetary return. The men's luncheon clubs of the city are also becoming interested in this work in the schools. The Cincinnati Symphony Orchestra gave a special children's matinee here on November 5th, in addition to their evening concert. The members of these luncheon clubs, Optimist, Kiwanis, and Rotary, purchased eight hundred tickets for musically inclined pupils who would otherwise not have been able to attend this most wonderful concert. These tickets were given to the Supervisor to dispose of as she saw fit. They were given to Sixth, Seventh, and Eighth Grade pupils and also the deserving pupils in the High Schools.

I believe we could procure the best artists for our students at a much more reasonable rate, than we would otherwise be obliged to pay for a single concert, if we formed a circuit or several circuits thruout the state. The people in the northern part of the state have the advantage over the central or southern sections because they can get their people out of Chicago at much less expense.

One circuit of the whole state, or three, a northern, central, and southern are suggested whereby the best artists may be brought to our schools at a minimum of expense.

This was followed by an address by Mr. Lloyd Morey, Comptroller of the University and Chairman of the Committee for the Star and Symphony Orchestra Courses of the University. Mr. Morey told of his experiences with the larger and smaller organizations and gave very valuable suggestions.

Many supervisors showed great interest in establishing such a circuit or circuits and it was decided that two or three committees will be appointed with Mr. Lloyd Morey as an advisory member of the committees. These committees will study the means by which such circuits may be established to bring better performances for the High Schools and different communities. It was suggested that the National Federation of Music Clubs might assist as they were eager for their prize winners to appear in different parts of the state. It is to be hoped many high schools will respond to this. The Conference also asked that the chairman be instructed to write to the State Committee of the National Supervisors Conference and ask that all supervisors

of the State be urged to attend this Conference next year. As so many of the problems discussed had a direct bearing on the work of the grade supervisor, it would be a most helpful plan to have a meeting of all supervisors interested in the progress of school music.

### 15. PHYSICAL EDUCATION SECTION

The Physical Education Section met at the University High School for the morning session at 9:00 o'clock. The first speaker on the program was Harry A. Miller, Director of Physical Education, Y. M. C. A., Bloomington, Illinois. His paper follows:

## How to Reach the Young Adolescent

In order to gear Physical Education into the life of the adolescent, so as to make the work most beneficial as well as interesting is our problem. I believe we should face this issue not as an unsolved problem but as a big opportunity to accomplish results.

In former years parents, Sunday School workers, and teachers have not faced the issue and studied it, but have tried to ignore it, trusting to luck that the pupil would emerge into adult life without blemish. To-day Churches, university, and Young Men's Christian Associations are promoting special courses in adolescence to train teachers and workers how to best deal with them.

I have been asked to prepare a paper dealing with the viewpoint of the Young Men's Christian Association and the results that should be expected thru the work of physical education. Please do not understand me to say that we have solved the problem and fully grasped the opportunity.

It has been stated that the adolescent boy takes the required gymnasium work in the schools in order to make his credit rather than from the sense of the enjoyment he may derive from it. This may be partially answered by the fact that the average boy dreads to do anything he is compelled to do. If such is the case, the boy will not derive the benefit from Physical Education that he should.

What is and what shall be the goal of Physical Education? Is it to pass certain credits in school work? Is it to secure relaxation thru recreation? Is it the development of expert athletes in various sports or wonderful gymnasts? Is it the purpose of Physical Education to develop physical efficiency thru exercise, or develop strong, sound and healthy bodies and the educating and teaching of health and hygienic habits? Or, shall we say that it is for the purpose of developing the moral and ethical side of the boy? We believe we might say *yes* to several of these questions. The best way to answer this question, in my mind, is to quote from Mr. J. M. McCutcheon of Toronto, when he says that "The integrating center and the crown of all education is Moral education."

This at first thought may seem to be a misleading goal, from what is usually thought to be the purpose of Physical Education. But when we realize how closely the Physical, Mental and Moral sides of the individual are related, this viewpoint will be clarified. The influence of the physical condition upon the moral life is not sufficiently appreciated by parents and teachers. Restlessness, disobedience, disorder, stubbornness, or other improper conduct can usually be traced to unhygienic environment, malnutrition, ill health, fatigue, or physical discomforts of some kind. Recent examinations of feeble minded, backward, and mentally subnormal children have revealed the fact that they were largely due to physical defects. Broadly speaking, Physical Education should therefore be such as to

tend to develop in the individual maximum health, freshness of vigor, pleasure in effort; and tend to stimulate his thinking, chasten his purposes, strengthen his will, and improve his conduct. The individual with education, without a moral background is a danger to society. If the purposes of the adolescent are moral and his will strengthened, he will naturally enter Society and the business world with a purpose such that his life will be a contribution to society in general.

What sort of a program of Physical Education can we promote for the adolescent that will tend to bring about the above objective? Before we are able to properly set up a program we must get the adolescent viewpoint of life. An intensive study of the adolescent has been made by Prof. Richardson of Northwestern University, in portraying the physical, mental, moral, and religious characteristics of this period as well as the likes and dislikes of the adolescent. This study, together with the valuable work of Dr. G. Stanley Hall in his volumes on Adolescence, have been consulted in the preparation of this part of my paper.

According to Prof. Richardson the period of adolescence is divided into three periods, namely, early, middle, and later adolescence. Because of the practical nature of this work I believe it will be worth our while to quote the outstanding characteristics of the early and middle adolescent periods. Early adolescence includes the years of twelve, thirteen and fourteen. Individual variation, however, must be taken into account.

### Physical Characteristics

Some of the chief characteristics are: rapid, uneven physical growth; uneven flow of vitality; growth and development of the sex organs with resulting changes in the quality of self-awareness and awkwardness; vigorous physical activity; heart relatively small, unable to sustain severe strain; interest in stunts requiring co-ordination of the larger muscles; rapid increase in height and in lung capacity. Girls at twelve are organically mature as boys at thirteen. To promote health during this period, all the vital functions such as blood circulation and digestion, need the stimulation that comes from frequent but not too violent exercise; regular hygienic habits in sleeping, eating, bathing, etc., established.

### Mental Characteristics

Imagination is active, but it is apt to be impracticable. There is general impulsiveness that easily results in dissipation of energy. Control is difficult because of lack of experience. There is a persistent desire for thrills or excitement.

### Social and Recreational Characteristics

Group loyalty centers upon group projects and the adult leaders. Interested in enterprises involving group competition. The feeling of group or gang loyalty has replaced the individualistic interest of the previous period. According to Prof. Richardson, the three outstanding needs of this period are: (1) Sympathetic approach to a more mature or adult friend who is looked upon as a hero or adoree; (2) Membership in an organized group; and (3) Active participation in group or team activities.

We have probably all noticed that the new sense of freedom characteristic of this period is apt to be the occasion of careless disregard for those in authority. For this same reason the problem of Juvenile delinquency must now be faced. Furthermore because of the boys' impulsiveness and erratic judgment, careful supervision, in view of physical limitation, must be provided.

During the ages of fifteen, sixteen and seventeen years, known as the middle adolescent period, the rate of growth is retarded but physical dvelopment is rapid. The shoulders broaden and there is a marked increase in lung capacity. The heart increases rapidly in size and strength. There is a decided increase in physical vitality and power of endurance. Muscular co-ordination, involving both

the larger and smaller muscles is now possible. There is a steady flow of energy and a corresponding readiness for physical exertion. During this period permanent health habits are established and corrective physical education is accomplished with most permanent results.

### Social and Recreational Characteristic

During this period chums are discovered. Forms of athletics and mass games in which partners participate are greatly enjoyed. There is a keen desire for co-operation and team play is not only attempted but actually achieved. Adult supervision becomes irritating unless tact and intelligent understanding are shown. The appeal of the great out-of-doors is irresistible; there is a marked interest in leadership; a desire for knowledge aind mastery of rules, and the knowledge of records that have been made. Institutional loyalty is a powerful motive in competitive athletics. (This characteristic should be given an opportunity to express itself by competing for honor and institutional loyalty instead of individual prizes or personal gain. Witness the incident of an Athletic Meet between adolescent boys of two Young Men's Christian Association in Chicago, where one Association had developed institutional loyalty while the other had catered to prizes. The boys of the latter refused to compete without the offering of prizes, while the former were only too anxious to compete for the sake of the organization which they represented).

Let us keep in mind the above characteristics of the adolescent period as we attempt to apply the various types of work and programs. As we proceed let us recall again that the objective sought is moral development through education in personal hygiene and thru the promotion of athletics, games, and other physical activities that tend to develop maximum health, freshness of vigor, and pleasure in effort, and tend to stimulate his thinking, chasten his purposes, strengthen his will, and develop a sense of the square deal and fair play. If this be accomplished we shall have done much that will cause the boy to grow into adult life and enter the business world as a valuable citizen of society. Again and again has it been demonstrated that a man's business standards can usually be judged by the way he plays games in the gymnasium. Reversing this statement, we can also say that as a boy plays or is permitted to play in sports, so is he apt to play the game of the business world.

In the outlining of our program let us first consider Competition, which, as stated by Kirkpatrick in his work on Fundamentals of Child Study, is the most prominent play of children between the ages of seven and twelve years. He says further that it continues to be a prominent feature in games all thru life but is often subordinated to the group instinct which develops at puberty.

Competition may be promoted from the standpoint of the team and the individual.

For the adolescent boy competition should be promoted on an organized basis either from an individual or team standpoint. When promoting a program of individual competition care must be taken that the records made by the poor athlete are not compared with the far superior athlete and flaunted before the public. Because of the boys' sensitiveness during this period the poor athlete is often discouraged and embittered and as a result loses self-confidence and self-respect. (Reference to Snedden of Columbia University). Individual competition has been successfully promoted in Y. M. C. A.s and Boy Scout organizations by appealing more through the sense of personal efficiency. The boy competes against himself and against his own records by trying to improve them. This plan may be promoted in stunts, track and field events, physical and anthropometric measurements. By the first mentioned, we might refer to stunts on gymnasium apparatus or any number of familiar stunts without special apparatus such as touching the floor with hands without bending the knees, pick object from floor with back to wall, holding broom stick in hands and jumping over same, etc. It will be found that if similar stunts are sprung upon the class dur-

ing the calisthenic period they will take a much greater interest in this formal work. Athletic events may be conducted on the standard of the personal efficiency or zone type of work. Set a standard or several standards of distance for the boy to jump. All boys who are able to reach or pass this standard may have his name published or placed on bulletin board. Boys unable to make the standard will be found practicing these events outside of school hours. This may be conducted in such events as the Standing Broad Jump, Standing Two Broad Jumps, Hop Step and Jump, Backward Jump, Shot Put, High Jump, and running events, etc. By this method large numbers may be given a test in a very limited period of time. Likewise the pupils may have their records taken and then try to see who can make the largest improvement in a certain given time. Physical measurements and strength tests may be taken from time to time in trying to pass a certain standard as well as to improve their own record.

Group or team competition is the natural means of creating interest during this period. The boy wants to belong to a team or gang. Under the inspiration of the group he will attempt the impossible in order to do his share in contributing to the welfare of the team. Competition in base ball, basket ball, foot ball, athletic events, relay and potato races, mass games, and stunts lend themselves readily. No doubt the greatest interest will be shown if teams are organized to compete over a short period of time rather than to form a new group at each session. I believe that we are often mislead by the boy in that we get the impression that all he wants is a chance to play basket ball on the gym floor. If he is given full reigns he will play until he becomes seemingly basket ball mad. I have been surprised to find that after all this does not satisfy him. I have one incident in mind where the Physical Director steps on the floor, choses teams, and plays basket ball the entire period. I have found that these same boys preferred a program promoted in a Young Men's Christian Association where, because of a program of other activities the boy did not play more than ten or twelve minutes of basket ball thru the entire period. In this case four or six teams were organized to compete for one month not only in basket ball, but also in baseball, relay races, and shuttle jumps. Sometimes gymnastic work was also introduced in team work. Every boy should be kept in action the entire period. Points are scored and recorded at each session. We must recognize team competition as an essential factor in this period. Gangs will be formed and their activities will result in neighborhood disorder unless their energies are directed in constructive channels under adult supervision. Example: where during the vacation period, when the long hours of nothing-to-do gets boys into mischief, the city gangs were organized into a base ball league. Inter-class competition in sports has aroused unusual interest in some schools. I have been informed of one instance where inter-class sports drew a larger crowd of spectators than an interschool game. Variety of program has much to do in captivating the interest of the pupil during this period. The boy wants to do a little of everything. When asked as to his future vocation he desires to be a Doctor, Lawyer, Machinist, Engineer, and a number of other occupations. I have known of work for boys where mostly formal work was promoted, and later nothing but play and basket ball was given. The boys did not care for either of these programs. We believe that the formal type of work should be given to boys in order to bring about the best results, in physical development. If the boy is taught the why of formal work and the results it will produce, we have learned that he takes enough interest in his own physical development so that he will desire this type of work in preference to basket ball only. It can be readily noted that the men or boys who are expert basket ball players are in the majority of cases poor specimens of bodily symmetry. They develop the flexor muscles of the upper third of the body at the expense of the extensors, the leg muscles and pelvic girdle at the expense of the shoulders. Because of the usual position assumed while playing, the back muscles are left undeveloped and poor posture will result. Work on gymnastic apparatus and calisthenics is therefore essential to bring about the desired results in physical training. Calisthenic exercises should be given to strengthen the muscles producing good posture. Calisthenics may be

made interesting by the interspersing of stunts, or feats, music, a large variety of exercises, whistling, singing, and counting aloud, and a large variety of hand apparatus used, such as light and heavy wands, companion wands, dumb bells, clubs, and mat work as well as freehand. Squad competition in calisthenics may be introduced to add to the interest.

Mass games should by no means be neglected in the education as well as training of the adolescent. It is a sad fact that in so many communities boys have forgotten how to play games other than the formal sports. We realize however that boys of this age often consider mass games as beneath their dignity. But there are a large number of virile games that will be greatly enjoyed by them. There is nothing that will produce hearty laughter and a general jovial spirit as will mass games. I refer to such games as dodge ball, bombardment, shuttle relay races, spud, swat, tag, chariot races, etc. Some years ago Kuhne showed that laughter itself is one of the most precious forms of exercise, relieving the arteries of their tension. This is important because of the fact that blood pressure is greatest during this period.

Kirkpatrick says that schooling that lacks recreation favors dullness, for play makes the mind alert. Johnson in his book on Education by Plays and Games says that "It is doubtful if a great man ever accomplished his life work without having reached a play interest in it."

What are some of the results to be sought for in our program of physical education in order to be of greatest value to the training of the adolescent boy? Someone says develop clean speech. Well and good. We have all heard it said that the boys real self comes to the surface on the gym floor in the playing of games. The garb of society is removed and utterances burst forth before they have a chance to be polished by thought of the effect and his environment. If clean speech can be maintained in the playing of games when the pupil is off guard, so to speak, it will go a long way toward making clean speech a habit. The dressing room should be supervised carefully for *there* is where vulgar ideas are often sprung. The boy addicted to such language should be taken into confidence and the danger of his impure thoughts impressed upon him. Not only for the sake of the boy himself but for the sake of those about him. I believe that the spark of the better self in every boy can be appealed to so that he will respond to that which is right.

Health habits can no better be taught than thru the department of physical education. By appealing to the development of the physical, health habits can be taught that otherwise would have no effect. This is especially true in emphasizing such habits for boys in training for representative teams. I have been informed of one of the High Schools in McLean County where marked results have been accomplished. The first day that the squad appeared for practice boys were cussing, swearing, and smoking cigarettes. Rules were laid down by the coach and as a result these habits have been discarded. Such training rules can be made school tradition and a few select boys will see that they are enforced, if they are given the authority.

How to bathe, as well as the necessity of a bath following exercise, should be taught. I know of an incident in one of the best high school gymnasiums in the state where boys were playing unsupervised basket ball in street clothes with merely street shoes removed, until they were teaming with perspiration. Without using showers they donned their coats, shoes and caps and plunged into the cold outdoor air.

Let us again recall that moral education is our objective and anything that will produce health and vigor must be put into our program.

Wise exercise is essential. Playing games to the point of fatigue is dangerous to health, also to the moral and mental side of the boy. We believe that the average boy will listen to reason and will respond to a well rounded program of gym work.

The boy of this age should have wholesome knowledge of sex hygiene. This should be taught from year to year so that the boy will grow into it naturally. Where this has not been done keeping fit thru sex hygiene should be taught by someone who knows how to present the facts not merely for the sake of the facts but from the standpoint of the higher ideals, the heroic and physical development. Lantern slide lectures may be secured from the State Department of Health that are well adapted to this form of education.

It will also be noted that the adolescent boy is open to the giving and receiving of a square deal. He desires games played with rules strictly enforced. If they are not he quickly becomes impatient. If this side of his nature is cultivated correctly it will do much toward preparing the boy for a successful business career, and the making of a valuable citizen.

There is no question but that in order to reach the adolescent he must be given not only exercise but wise exercise under careful direction. Because of hero worship so characteristic of this age it is very essential that leaders for this group be strong moral characters in every respect. If they expect their boys to follow hygienic methods in training, and use good language and show good sportsmanship in games, the example must be set by the coach or physical director.

The public has responded in a great way toward the construction of fine gymnasiums, but I wonder if it is not losing a big opportunity in the training of the mass by not providing leaders in the work. So that instead of the few benefiting by the wonderful equipment provided, every adolescent will be reached and benefited.

President David Felmley, Illinois State Normal University, Normal, Illinois, presented a paper on the subject: Physical Education and Citizenship.

This paper is not availabe for publication. The final paper of the morning session was presented by Major John Griffith, University of Illinois. Major Griffith's paper was as follows:

## Physical Efficiency Tests

There can be no agreement among Physical Educators regarding the character and purpose of a Physical Efficiency Test until there is first an understanding as to the purpose of Physical Education. In other words, we must first reach a conclusion as to what we are trying to do before we give tests to prove what we have accomplished. With this in mind, I shall preface my remarks relative to a Physical Efficiency test with a brief statement of the aims and scope of Physical Education.

The values of Physical Education are fourfold, viz, corrective, hygienic, recreative, and educative. The time was when chief stress was placed on the hygienic values, but the majority of physical educators are today agreed that the educative side of physical education should be given the greatest emphasis. We are more concerned with what the individual can do than with the girth of his muscles or the expansion of his chest. Further, corrective work is a special phase of Physical Training which concerns the defective and in most instances it should be directed by specialists. As regards the recreative values, while I have no desire to underrate them, I am sure you will all agree that the highest purpose of Physical Education is not to provide amusement and entertainment. If we build our programs with the idea of functional development as the accruing result for the participants, the greatest good will be secured for all concerned and an accomplishment test rather than a test of possible potentialities will be demanded. For example, the automobile manufacturer is more concerned with a road test

which will demonstrate the pulling qualities, speed, and durability of his car in actual operation than with the shop tests alone, and the performances of the whole animate machine influenced by innate tendencies, capacities, and mental states, should be tested rather than certain parts of the physical machine.

Assuming, then, that the physical efficiency test is to be a test of function, of what shall the test consist? The following events are with minor changes the same as the ones which our war experience has proved best adapted to the needs of the army, and are the same as those which have been recommended by a committee of the National Collegiate Athletic Association for the colleges and universities:

1. Events and Standards:
   - (a) The 100-yard run .....standard 14 seconds
   - (b) The running broad jump.....standard 12 ft.
   - (c) Climb an 8-ft. fence from a "still hang"....standard 6 seconds
   - (d) Baseball throw for distance and accuracy, 90 ft. at 6 ft. target.. .....standard 10 points in 6 throws
2. Equipment:
   - (a) For the 100 yard dash: an ordinary running track or smooth, firm turf, rubber-soled shoes, no spikes.
   - (b) Running broad jump: soft pit, shoes same as for the dash.
   - (c) Fence climb: fence 8 ft. high, smooth surface, boards nailed on perpendicularly, top made by 2" x 4" laid flat with corners rounded so as to avoid injury to hands. The fence should be built so as to allow a 6 ft. panel for each contestant. The posts should be 6" square or in diameter, so as to do away with the necessity for special braces.
   - (d) The baseball throw: distance, 90 ft. from home to first. A screen or mat of canvas 10 ft. by 12 ft. on which is fastened a target 6 ft. in diameter with a bull's eye 2 ft. in diameter and 4½ ft. from the ground. This bull's eye to be the center of two circles, one 4 ft. in diameter and the outer one 6 ft. in diameter. Scoring will be on the basis of 5 points for hitting the bull's eye, 3 points for hitting the space between the outer edge of the bull's eye and the 4 ft. circle, and 1 point for hitting the space between the 4 ft. circle and the 6 ft. circle.

The events just mentioned are, first of all, natural events; that is, they are tests of activities that every normal individual should be able to perform. A four-year old child can run, jump, climb and throw. The shot-put is not a natural event, as it requires special training. In the second place, these events are easily administered. A swimming test is advisable but it is not easily administered. In the third place, the running, jumping, climbing, and throwing tests as outlined should not overtax the strength of a healthy high school or college man, while an endurance test can hardly be administered with impunity.

A Physical Efficiency test such as outlined would be of value for the following reasons:

First, if given early in the year and again later, it would indicate whether or not progress had been made along certain lines of functional development.

Second, it would stimulate interest on the part of the students in their physical accomplishments.

Third, these tests are of value for competitive purposes between schools and, further, for comparison between the men of different sections of the country as well as the comparison of one group or class of students in a certain institution with another group or class.

Fourth, when students become interested in their own functional development and train accordingly, they accomplish at the same time hygienic development, and if the work is properly administered, recreative values, and also secure certain corrective results.

Fifth, a universal Physical Efficiency test would be of incalculable value in estimating from time to time the state of physical efficiency of our national man power.

A very interesting discussion was started concerning a balanced program for Physical Education for high schools. Harry M. Thrasher, Supervisor of High Schools in Illinois, spoke informally of his plan to investigate Physical Education in high schools throughout the state. A motion was made that a committee of five be appointed to consult with Mr. Thrasher concerning Physical Education, the committee to include physical education teachers in the state. Appointment of this committee has been deferred.

The afternoon session began with a paper by Miss Louise Freer, Director of Physical Education for Women, University of Illinois. Her paper follows:

## Modern Tendencies in Physical Education

Many of you are familiar with the fifty objectives in Physical Education which were published in the School Review last year and again in the American Physical Education Review for May with a discussion by Dr. Dudley Reed of Chicago University. Most of us will perhaps agree with Dr. Reed's criticism that Professor Bobbitt's emphasis is on education of the body rather than education by the body. There is a completeness in this list of objectives as far as the care and training of the physique is concerned. In fairness, however, it should be said that the writer states that this list is only illustrative of the kind of objectives needed by teachers of Physical Education. It is not my purpose to discuss these objectives which has been so ably done by Dr. Reed except to state my own belief that many of these objectives if attained may be significantly psychological and social in effect. Among these, one which is essentially a part of my discussion is Objective number 16, "Ability and disposition throughout life to engage with pleasure and profit in a varied repertory of games, sports, athletics, dances, outdoor recreation, etc., such as: swimming, skating, hiking, rowing, riding, tennis, golf, ball games of various kinds, running games, fencing, folk-dancing, fishing, hunting, canoeing, motoring, camping, athletic events, etc."

One of the most common criticisms we have had from educators is that physical education as taught in our schools and colleges fails to carry over into the life of the individual after he has completed his school or college course. You have heard the oft quoted cases of the college football star who loses his health after a few years out of college—that following four years of frequent and strenuous exercise he has little or no regular exercise. We are accused of giving systematic exercise which we claim to be developmental to the individual. This is questioned. Is it as developmental as physical activity which has the play spirit? Is the resulting benefit one that will continue and become a life affair?

I am not attempting to argue the systematic or formal gymnastics versus play activities, but I wish to point out in this connection the aptness of the word "disposition" in the objective just stated. In the teaching of sports the aim for the development of skill is taken for granted and we have the very definite aim to promote and maintain health. The development of disposition, namely,

to make the inclination for play a lasting thing has been a more or less unconscious and remote aim. I believe, however, it is this which characterizes our work in physical education today. Community recreation, play grounds, church and social recreation centers, clubs of various kinds, and the colleges, have all contributed to the development of this tendency. The schools have been the last perhaps in helping to promote this real interest in play activities. This is partly due to non-provisions for physical education in the schools or to a too narrow program in this subject. The state must assume much of the blame because of the lack of any or adequate legislation.

The colleges are doing more and more, I am convinced, to make Physical Education and living coordinate. If we believe that play fixes habits and the training of sports best develops life habits, and appreciation, we are at least headed in the right direction. More than ever before we find spontaneity and the play spirit in the various activities which are a part of a physical education program. There are a considerable number of factors which have helped to bring about this change. I hope you will bear with me if I mention briefly some of these factors in our work at the University of Illinois, all of which are a part of the departmental programs in similar institutions.

1. Decrease in physician's excuses due to college physicians or a medical advisor for women, who cooperates with the physical education department. Five were excused this year because of physical disability. This is out of 857 freshmen and sophomores. 212 girls are in corrective classes.
2. Corrective work which stimulates play interest on the part of the pupil.
3. Increase in variety of sports offered in required work.
4. Choice of sports.
5. Choice of third periods for sophomores—variety offered in third period classes.
6. Provision of equipment.
7. Class tournaments or meets in all sports (any girl is eligible to try out for class teams).
8. Giving girls, proficient in these sports, opportunities to coach.
9. Encouraging girls to choose sports for class work in which they are not already proficient.
10. Woman's Athletic Association, awarding points for proficiency.
11. Increasing number of years requirement.
12. Open swimming hours.

These have all had some share perhaps in making required physical activities a vivid part of a girl's living rather than a matter of required systematic exercise so many times a week.

The development of activities themselves has been both the cause and effect of this modern trend. Natural gymnastics, which is a comparatively new development, is disclosing new possibilities. It works out successfully with the professional group. I am interested to see it work out with high school and college classes. Exercises given in rhythm preparatory to swimming, baseball, basketball, soccer, etc., have a decidedly helpful and practical value and are at the same time exhilarating and of physiological benefit. This is not such possible material for class work unless it can be followed by the actual playing of the games. The duck walk, the wheel-barrow, the row-boat, the centipede race, are all good fun as stunts and you can readily appreciate their physiological value in a natural gymnastics lesson.

Dancing too is having its revolution or evolution and again we have the goals, or shall I say by-products, naturalness and spontaneity. This phase of physical education, perhaps more than any other, has been subjected to fads and

limitations. The so-called natural dancing has had all kinds and varieties of exponents. There has evolved however a type of dancing which is satisfying in its relation to our aims in physical education. The lack of artificiality, the opportunity for natural expression, muscular control, poise, lack of self-consciousness, and above all its creativeness recommends it to us. Although you may not agree in part with some of the theories of those who have helped to develop it, you will agree, I believe, that fundamentally they are achieving the quality of development towards which we are all working.

Clogging is another activity which is characterized by its naturalness. It provides vigorous exercise and there is keen joy in the doing of it.

Although corrective gymnastics does not properly come under physical activities, I speak of it here as also tending away from the more formal and systematic. In our conception of remedial gymnastics we have hitherto not fully recognized the possibilities for handling large groups. Neither have we appreciated possibilities for competitive games and stunts. In a corrective gymnasium today you will see the floor covered with mats, and from 30 to 40 girls doing the bicycle or scissors exercise for strength and flexibility of back and abdominal muscles. You will see a girl in one corner standing on her head, another swinging on a trapeze, a third using the punching bag, all to a jazz tune on the victrola. The class period may end with a lively game of kick ball. The individual, of course, has a medical and physical examination followed by frequent examinations. A chart is kept and improvement tabulated and recorded. Those of us who have worked over the problem of trying to make corrective work equal in interest to a regular gymnasium class appreciate this new emphasis.

To return to my subject I believe that the modern tendency in physical education is toward creating a disposition for play activities which will carry over. To best achieve this then we must do all we can to set up satisfying bonds in the individual.

And now if you will allow me a second text, I want to call another objective stated by Mr. Bobbitt: "An effective health conscience, and abundant apperceptions-mass, shot through with right valuations, ideas and impulses." Again we find comprehensiveness and completeness.

I wish I had time to discus at length modern tendencies in the teaching of hygiene. This group, however, is doubtless cognizant of all the points which I might present. In general, we know that hygiene is no longer taught in a non-functioning way. Many of us received our first instruction in hygiene through a course in elementary physiology and our chief impressions were pictures of a drunkard's stomach or the deadliness of two drops of nicotine. We feel encouraged when we think of the tooth brush crusades, and approve health clowns and health fairies who create the desire on the part of the children to know "Johnny Spinach" and "Susie Apple," and to drink 8 glasses of water a day. Physical examinations, health charts, posture tests, efficiency tests, all help to make hygiene a definite part of the child's living. He is getting something he can apply.

It must be said especially of our colleges, hygiene has been taught by everyone in every kind of way. Those of us who are fortunate enough to have medical advisors in charge of this subject, know that lectures on hygiene treat of hygienic living and are made very practical and applicable. There is a fair percent of girls who come to college who have not had the opportunity to form hygienic habits. If they do not have this opportunity in college it is a question whether they will ever form them. To develop a health conscience in the individual every opportunity must then be used by those who can do it most effectively.

It may be of interest to you to know the plan our physical education faculty is submitting to the W. A. A. for awarding points for hygienic and corrective work. You will be able to help us decide on the feasibility of such a project.

My remarks have been rather general in nature but I hope I have opened up the way for a number of you to tell us of your personal contribution to the development of the tendencies under discussion.

A very instructive paper was given by Miss Ruth Glassow, Director of Physical Education, Western State Normal School, Macomb, Illinois. Miss Glassow's paper was as follows:

## Methods of Organizing Athletics Among Girls

When we reach the place where we discuss methods of organizing athletics among girls we have passed the point where the value of such athletics is debated. It is no longer a question of "shall we allow our girls to play basketball" but "how can we give them the most from their basketball, hockey, and baseball." Checking over, like the beginning reporter, the six interrogatives which must be answered in every article, we can dispense with the who, the what, the when, the where, and even the why. Less than a year ago, a school man, in watching a girls' track meet said, with a shake of the head, "We used to protect our girls, but look at them now." That attitude is disappearing so rapidly that we can center our interest and energies on the "how."

By skirmishing about the edges of groups of educators—whose intelligence has not been labeled "below par" by the prefixing of physical—I have gathered that if you are a progressive educator, if you are keeping abreast of the times, you talk about and conduct "Socialized Recitations." Why sit back and allow the academic profession to monopolize the high sounding phrases? Why not demonstrate that even if we do teach physical education we know something of educational principles, that we have a passing acquaintance with the elements of child study. Why not adopt the term "Socialized," since the progressive educator must do so; why not talk about and conduct "Socialized Athletics?"

Since we have borrowed the phrase from the high brows, it is only logical that we learn from them how to use it. And so I approached one and, in a voice husky with swallowed pride, asked,—"What is a Socialized Recitation?" Taking care to answer in words of not more than two syllables, she explained that it is one which the students conduct themselves and the teacher sits in the back of the room and looks on. Even a physical educator should be able to do that!

What would have happened in the high schools I have known if I had followed the watchful, sitting back method? There would have been two lines of procedure. One would have been a flare of enthusiasm, a diminishing interest, a few dropping out, then more, and at last no one left to play. Not because girls do not care to play, but because they do not know how. It is not merely a matter of not knowing basketball or hockey, but not knowing how to play. An article, called "Playing Like a Boy," published in a recent number of Outing, illustrates this deficiency in our girls. A college woman describes among her summer experiences, a visit to a Y. W. C. A. camp in the Maine woods. The girls have been in camp a few days; they are listless, afraid of storms, discontented, and wish that they were back in the city. The author sympathizes with the young woman in charge of the group—a month with such company could hardly be a pleasant prospect. "O" was the laughing reply, "They'll be all right as soon as they learn how to play." That bewildered the author. What did she mean? The woman in charge demonstrated. At one side of the field was a boy and a dog. She threw a baseball at them. Immediately both were in action. The dog reached the ball first, seized it, and away went the two in a mad chase. Then the young woman walked toward a group of girls; she threw a basketball on the ground near them. They looked at the ball; they looked at her—and went on talking. They didn't know how to play—and many of our high school girls know as little.

For years Madame Grundy through the voices of thousands of mothers has been stifling the play instincts of the girls. When Mary, age ten or twelve, is playing football in a vacant lot with her brother and his chums, she is called into the house and "Mary," says her mother, "aren't you ashamed of yourself—out there playing like a boy. Look at your dress. Look at your hair. Why don't you play here with your dolls?" At dinner time comes brother—tattered and dirty—and Father wants to know how the game went and how Brother's wind is developing.

With such girls, in whom play instincts have been stunted during the growing period, a laissez faire policy in athletics will mean no athletics at all.

And then there are the girls whose play instincts have been kept alive by their parents or perhaps in spite of them. They enjoy athletics as much as any boy. What kind of organization will they build, what methods will they suggest? They are going to do just what any human being would do. They will want the method which public opinion rates as most valuable. Who is content to drive a Ford—especially when you are in your teens—if other adolescents have a Paige, or a Pierce Arrow? If you have a new Ford do the neighbors come to admire and envy as they do when one of the bigger, costlier cars is brot into the community?

Few of us have dealt with girls' athletics, who have not been met with a longing, "Why can't we play outside games as the boys do?" How many girls —how many teachers—are there who do not consider girls' athletics of secondary importance. The townspeople, the newspaper, the student body, and the faculty unite in paying homage to the boys on the school team. The school athlete is held before them as the individual who has given time and energy that he might work for the honor of the school. Could you find any ideal more appealing to the adolescent girl? The only reason as far as they know—as far as most of the faculty know—the only reason they are not allowed to play inter-school games is because they are girls. In these days when women are demanding and receiving equal rights in the business and civic worlds, how much longer will such logic satisfy? Even Madame Grundy is siding with the children of today in stamping out the idea that "you can not do that because you are a girl."

Had I used Socialized Athletics, as suggested, in my high school teaching two procedures would have followed. Athletics for girls would have died or they would have been organized on a plan similar to that now used by the boys. Do we want either of those courses to be followed? The first one is obviously out of the question. If athletics hold any values for girls, that procedure is not the way to secure them and, in addition, you and I would be seeking new positions.

Do we want to copy the boys' organization? Are educators—physical as well as those of good intelligence—satisfied with inter-school athletics? I look thru the last Readers' Guide and I find such articles as New Rational Athletics; Sanity as Related to Athletics; Athletics, Major or Minor, Which? Intercollegiate Athletics in Relation to Physical Training; The Health of the College Athlete. And I recall discusions on the advisability of giving the time and gymnasium space to the few who need it least; on the demoralizing effect upon the physical education instructor, the coach, who must produce a winning team to hold his position or to advance in his profession; on the demoralizing effect upon the boys who are taught that to win is more important than to play according to the spirit of the rules instead of the letter. I have a strong suspicion that many school authorities are at the present time in the same position as the national governments of the world. They realize the advantages of disarmament, but it is not advisable unless other schools adopt the same plan and a goodly number of the people are not yet prepared for it. The abolition of competitive games would be condemned by parents and pupils alike. Inter-school athletics for boys is a spoiled child. It will take years of training to bring it back to a respectable disposition. I can see no reason for ruining girls' athletics by the same training.

Few of the values of athletics which I should like to see and which I know are possible, have resulted from the application of the Socialized Method. I recall something about a bit of knowledge being dangerous and approach my intellectual friend again and tell her what her remedy has done for my department. I learned that in ways other than sitting in the back of the room watching the pupils teach themselves, the teacher attempts to be worthy of her magnificent salary. The instructor must know what she wants and must be able to secure those results by leading the pupils to believe that those are the results they want. It sounds more difficult than the first explanation.

Taking as a model the bill collector in the English play with his "here I bes and here I stays until I gets what I came after," application of the second explanation shall have to be made in our efforts to conduct Socialized Athletics. First the instructor must know what she wants.

The following are the results I consider desirable:

First, That every girl shall know how to play and like to do so. Interest in and liking for games is instinctive, a possibility possessed by every child. Those possibilities may be developed thru use, girls will like to play after they know how. Every girl should have the opportunity to play in match games, to be one of a team. The values to be derived from athletics shall go not to a favored few but to every girl.

Second, that girls shall learn not one or two team games; they shall know several major as well as minor sports; they shall develop a love for walking and for such out-of-door activities as may be continued in after school life.

Third, that they shall develop thru their interest in athletics an interest in hygienic living. That they shall know and develop habits which will keep them fit,—common sense habits of exercise, rest, cleanliness, and diet.

Fourth, that they shall develop ideals of sportsmanship; shall develop in leadership, initiative, responsibility; in qualities which will make them good citizens.

That much is easy to decide but how to lead the pupils to believe that they want the same is another matter. How to guide the girls who do not know that they want athletics and those who know they want school teams is difficult.

There must be some stimulus to participation other than play itself. I know of nothing better than awarding a school letter. The athletic emblem, thru years of advertising in boys' athletics, thru the growth of sentiment, has acquired a value equalled by few school honors. Not to use this sentiment would be to close our ears to Opportunity's knocking, to fail to cross the bridge when we come to it. Thru her desire to wear the school emblem, a girl will play team games until she realizes that she is enjoying the game for its own sake.

There is likely to be opposition from the boys of the school on this point. By the divine right of having had it first, the athletic emblem belongs to them. What boy wants to wear a letter a girl can win?

It is a good plan to have a different type of letter for the girls. The standards are to be different and girls, as much as boys, should want a distinction. In some schools the male population will object even to that. There is no reason why girls of any school should be refused the privilege of wearing the school emblem or of the privilege of determining on what basis that emblem shall be awarded. Consider the present condition: the school emblem shall be awarded only to those members of the school who participate in interscholastic games. Every boy in school—theoretically at least—may try out for a school team, has the opportunity to work for a school emblem. But no girl shall be permitted to play against other schools. A fine example of man-made laws! This is but an illustration of conditions which are changing; it was not long ago that boys and men were protesting against the entrance of the opposite sex into college

class rooms, and still more recent was the attempt to keep the voting booth sacred to those who had used it first. Perhaps it is because the school emblem has so long been denied them, that girls are eager to wear it—and it is that eagerness which I would use in holding them to games until play instincts are aroused—and to counter-balance the influence of Madame Grundy and her tribe.

To most high school girls the idea that a letter should be given for anything but playing on a school team is as new as it is to the boys, and an award, given on any other basis, may not appeal until they know that it is the plan followed by the college and university women. The point system plan used by the colleges and by the Illinois State Athletic League for High School Girls will open a new field. Under those plans, a girl may win points thru her skill and participation in major and minor activities. She may win part of her right to wear the emblem by walking a certain number of miles. The points are so arranged that she must be not only a good basketball player, but that she must be developing skill during the seasons in which basketball is not on the school program. She will discover that here is an award given for all round development. Hygienic habits are formed by making it necessary to keep simple training rules.

At first glance, it would seem that the award could be won easily, and that must be prevented if the letter is to retain its value. The point system should be so arranged that the school letter may be won but once during a school course and so arranged that only the girls who make the most sincere efforts, those who achieve greatest skill, can reach the goal. I have yet to see the school in which the point system is used where the girls consider the letter easier to earn than the boys' emblem. Four years is a long time to hold the interest of a would-be emblem wearer and there should be mile stones to signify certain achievements. Two or three lesser honors, such as class numerals or smaller emblems, should be granted. These will not only sustain interest thru the four years, but will serve as a goal for the girls who early in their high school career realize that the greatest honor will be impossible for them. It is by means of the point system that health habits are developed, and by means of which a girl learns to know and enjoy activities which she can use in after-school life.

For training in citizenship, the girls should take charge of their athletics. This will necessitate an organization which we find in colleges and high schools, such as the Women's or Girls' Athletic Association. What better training in civic responsibilities can they have than in writing their constitution, in deciding how many points shall be awarded for each activity, how many points shall be earned for the school emblem, who shall be admitted to the organization, etc.? So much of our school work is weak because there is no opportunity to do. As one educator says, "one knows a thing after he has reacted upon it, not before." Here is the Country of Athletics, in which the girls may make their own rules, make decisions, settle difficulties, elect their own officers; in which there is a government for them and by them.

Thus far no mention has been made of teams and of competition. This again is to be controlled by the citizens in the Country of Athletics. They decide whether each class shall have a team, whether the school shall be divided into groups, or classes into groups. There should be some arrangement for competitive games in which every girl will have an opportunity to play. A description of the plan used at the University of Wisconsin, given a year ago in the Physical Education Review, shows that some type of tournament may be planned to provide for every individual where numbers are large. To have a first, second, and third team in each class brings many girls into the tournament. In smaller schools, any athletic season may begin with a preliminary tournament. The division into teams which gives every girl an opportunity to play, is made by the girls. This tournament may be followed by a shorter class tournament for which it provides excellent training. After the class tournament an honorary school team, similar to the all state or all conference team may be selected. The smaller division promotes interest in developing skill.

The instructor's part all thru the organization is not that of manager, but that of guide. She must point out new possibilities, study the abilities of her group, decide how much control the girls can exercise, and she must know how high their ideals shall be. She shall keep them continually striving. The growth in ideals is well illustrated by the movement for training rules in a school which has an athletic association. Several years ago, training rules were not included in the requirements for awards. The organization was new; training rules were something for which the girls were not prepared. A few years later, when they had gained in strength and in the desire to make the emblem mean more, training rules were required of all girls on athletic teams. Since then ideals have developed, passing thru the stage when every girl trying out for a team must keep training rules, until now it is a requirement for every member of the organization.

Ideals regarding school teams and interscholastic games must be developed by the teacher. In my own work, I have presented the problem to the girls in the following way:—The greatest number of demands come during the basketball season. We had during the last season about 125 girls playing basketball and had the use of the gymnasium two afternoons each week. Had we had a school team at least ninety of those girls would have been turned away. It is the girls who would have been with the school squad for whom the explanation is necessary. They see that what they enjoy so much could be given to only a few if we had interscholastic games. For the enjoyment of all, for the physical development of the school, they are willing to give up the pleasure of outside games. For moral development, there is real education. Something more than the sacrifice that could be made by giving time and energy to a team, for after all that is pure enjoyment. I always explain that if we had time and space so that everybody could play and the more skillful players could practice alone, then a school team would be ideal. It is not because we are girls that we do not have interscholastic teams, but because we want to follow the methods which will be of most value to all. At Macomb we do play outside games in tennis, because such playing does not crowd out the weaker individuals, and we had our class champions play a post season game in basketball last year.

The teacher's duty then in Socialized Athletics, in addition to watching the pupils teach themselves, is to suggest ideals in sportsmanship, in organization, in hygiene. She is a will o' the wisp, leading the girls, always near enough to entice them and always far enough away to keep them moving onward.

Miss Ruth Glassow, Director of Physical Education, Western State Normal School, Macomb, Illinois, was made chairman for next year, and Miss Louise Freer, Director of Physical Education for Women, University of Illinois, was made secretary.

LYDIA CLARK, *Chairman.*

After the regular program of the Physical Education section was concluded, the Illinois League of High School Girls' Athletic Association met in business session. A copy of the report of this meeting, as sent to members, is printed below:

## Report of Meeting of Illinois League of High School Girls Athletic Association

Below is a copy of the minutes of the meeting, November 18, 1921.

The minutes of the last meeting were read and accepted. The following camp reports from the directors of the Central and Northern camps were read.

### Pistakee Lake Camp

The Northern division of the State League, held its camp at Lake Pistakee, Fox Lake, Illinois, June 20 to 27. This was not an ideal place for a camp, by any means, but was the best available after weeks of searching.

With twenty-five girls, however, we could make camp more like a house party, and from all the reports I have been able to get, I judge the girls had a good time. We represented the Deerfield Shields, Joliet, and Oak Park High Schools.

During the very hot week we were in camp the girls spent most of the time swimming, fishing and boating. We played match games of baseball and had a swimming meet. That with an all day motor boat trip through the four lakes, constituted our program.

Miss Ruggles and Miss Henderson, from the Joliet High School, were with us, which added a great deal to our enjoyment of the camp.

We charged the girls about $15.00 for the week's expenses. They were asked to do about an hour's work a day. Since we were located in a hotel, these duties could not be arranged as regular camp life should be.

Another year, I am sure we could have double the attendance and double the interest. In planning for this year's camp, we must manufacture a place where the girls can have tennis, and hikes, and perhaps archery.

Since I was at camp, myself, I feel quite safe in saying that such a camp should be a decided success, and should be a yearly event.

Florence Griffin.

### Central Camp

The Central Camp of the Illinois League of High School Girl's Athletic Associations were held from June 10 to June 17 at Old Salem Chautauqua Park, one and one-half miles from Petersburg.

There were forty-two girls present, representing Bloomington High School, Normal Public High School, Armington High School, Macomb High School, and University High School. There were five councillors and a trained nurse, Miss Langley of Bloomington, in attendance the entire week. Miss Clark spent four days at camp and Miss Glassow, of the Western State Norml School, was there three days.

Baseball games and volley ball tournaments between the four tribes were played during the game period under the direction of Miss Cora Jane Strohecker. Mr. Walter Brown, of Bloomington High School, gave a daily swimming lesson. Scouting, craft work, hiking, boating, folk-dancing, and camp fire evening were other activities which were under the direction of Miss Ruth Glassow, Miss Freida Thoene, and Miss Clarlotte Howard.

On Thursday, June 16, the citizens of Petersburg were invited to be our guests. In the afternoon a big swimming meet and demonstration was held. In the early evening the final baseball meet between the two winning tribes was played. There were songs, a stunt show, a camp fire, and a marshmallow roast later in the evening. Camp emblems were given to the girls who earned enough points according to the point system, (which was presented to the girls at the beginning of the week and which was based on the various activities). About one hundred and fifty citizens of Petersburg and the surrounding country spent the afternoon and evening at Old Salem Chautauqua Park and enjoyed the activities.

Each girl paid $15.00 for the week. The main items of expense ran as follows:

| | |
|---|---|
| Hotel (full equipped light, coal) | $100.00 |
| Head cook and helper | 50.00 |
| Groceries, meats, incidentals | 350.00 |

We have a small balance in the Normal Bank.

GRACE MOBERLY.

An open discussion concerning the election of officers for the following year, the revision of the constitution, and what should constitute the governing body, were the subjects under discussion.

It suggested that the girls of the different associations should constitute a governing board with an Advisory Committee of older people.

The directors and teachers change so frequently on this Advisory Committee, it was suggested that we have some "outside people." A prominent doctor interested in work for girls, a member of the State P. T. A. or one of the heads of the Physical Education Department from our University would qualify.

A motion was made that "a new constitution be written for the State League by the students of the organization and that the present officers would hold office until that constitution is made effective." This motion was seconded and accepted.

Miss Clark said Miss Moberly had left the state, she will appoint someone to take her place until later. It was moved, seconded and accepted that "a camp committee be appointed for the next season by Miss Clark." This committee will be appointed as soon as possible.

The point system was discussed as no official report on the revision of the same had been received from Miss Hildebrandt, it was thought advisable to accept the following motion. (That "each association now a member send in its proposed amendments of the point system to a new committee to be appointed by Miss Clark." The new booklet must be gotten out by March at the latest. It was moved "that schools which are members, be classified according to numbers and equipment for representation on the point revision committee. A person from each of these classes of schools to be appointed by Miss Clark on this revision committee." It was suggested that we train our students for leadership and each school send at least one representative to one of the camps for a conference. The girls should take a more active part in the management of the League.

The Southern part of the state has very few members and we are urged to turn our attention in that direction.

A summary of the secretary and treasury report was read. The treasury showed a balance of $53.70. The dye for the pins and rings has been paid for, half of which amount $75.00 will be refunded to the League when fifty articles are made from this dye. So far twenty-four awards for four hundred fifty points have been given, and twelve for six hundred points. It was moved, seconded and accepted "that a membership committee be appointed by the president." The meeting adjourned.

You have no doubt by this time received a notice from Miss Clark concerning your school.

Will you have your organization meet and make the changes needed for your point system? Send these in to Miss Glassow of the revision committee before Christmas. Miss Glassow's address is, in care of Western State Normal School Macomb, Illinois.

Our two awards are in the form of a pin and a ring. A pin and a ring are being sent from one school to another for girls to see. They are being sent around in this order:

1. Bloomington High School
2. Decatur High School
3. E. St. Louis High School
4. Gridley High School
5. Hittle Township High School
6. Jersey Township High School
7. Joliet Township High School
8. Kirkwood High School

9. Lincoln Community High School
10. Monmouth High School
11. Monticello Township High School
12. Normal Community High School
13. Elgin High School
14. Theo. Roosevelt High School
15. Tuscola Township High School
16. University High School
17. Yorkville High School
18. Western State T. C.
19. Onarga High School
20. Thornton Township High School
21. Sterling Morton High School
22. Oak Park High School

in care of the physical directors for girls, of the school. When your turn comes please mail them, insured to the next one of the list, after having kept them for a week to exhibit to the girls.

As soon as the new constitution is completed it will be sent to your school to be voted upon. Please vote promptly and send in your vote so we can elect our new officers.

Yours truly,
MARGARET E. BYRN.

## 16. PHYSICAL SCIENCE SECTION

The Physical Science Section met in Morrow Hall, Friday morning, November 18. Since the chairman, B. S. Hopkins, was unable to be present, C. M. Wirick of Crane Junior College, Chicago, presided.

A nominating committee consisting of William F. Einbecker, Highland Park and E. E. Rademacher, Nokomis, was appointed. The following program committee was nominated and duly elected:

| | |
|---|---|
| H. H. Radcliffe, Decatur, chairman | 1922 |
| S. Aleta McEvoy, Rockford, secretary | 1922 |
| E. H. Williams, University | 1923 |
| F. D. Barber, Normal | 1923 |
| J. A. Smith, Urbana | 1924 |
| Rosalie M. Parr, University | 1924 |

At 2:00 P. M. the section met as two sub-sections: one in Physics, Room 217 Chemistry, H. H. Radcliffe, Decatur, presiding; and one in Chemistry, Morrow Hall, C. M. Wirick, Chicago, presiding.

The attendance was about 150 in the morning and about 75 for each sub-section in the afternoon.

After the business of the session had been properly disposed of, the regular program began. The first paper was entitled, *Some Recent Advances in the Chemistry of Nutrition*, (Illustrated), and was presented by H. B. Lewis, University of Illinois. His paper follows:

### Some Recent Advances in the Chemistry of Nutrition

Howard B. Lewis, University

In recent years, attention of the student of nutrition has been focused on the amino acid as the unit of importance in metabolism of proteins, rather than

on proteins as such. The protein molecule is composed of complexes of alpha-amino acids of the type formula, $R-\underset{\underset{NH_2}{|}}{\overset{\overset{H}{|}}{C}}-COOH$. Of these, some eighteen or more are known to be present in the protein molecule, each protein varying in its quantitative makeup. Some of the more important of these amino acids are: tyrosine (phenol group), tryptophane (indol ring), cystine (sulfur containing), histidine (imidazole ring), lysine, and arginine (guanidine group). Gelatine is completely lacking in three of these important amino acids, tryptophane, cystine and tyrosine, while zein, one of the proteins of maize, contains no tryptophane or lysine. Proteins not only entirely lack certain important amino acids, but vary greatly in their composition quantitatively. Thus gliadin, one of the two important proteins of wheat gluten, contains 43.7% of glutamic acid and no glycocoll while gelatine contains 5.8% glutamic acid and 25.5% glycocoll.

The proteins are of high molecular weight, 10,000 or more in many cases. With such a variety of units and high molecular weight, the possibility for isomers becomes very great. With eight different amino acids in the molecule and no acid occuring more than once, the number of isomers possible is 40,320, while with 18 amino acids the possible number of isomers is 6,402,373,705,728,000, a figure which can have little significance to the average individual because of its magnitude. Proteins show the phenomena of "Biological Specificity," which may be stated in its simplest terms as follows: No two species build up in their tissues the same protein. Each type of organism is provided by the diet with the same units for protein construction, but acts selectively to form a protein peculiar to the species. On this fact depends a number of important phenomena, including anaphylaxis, the use of anti-toxin, vaccination, and much of our modern theory of immunity. The ultimate basis of this specificity of protein is undoubtedly chemical, a consequence of the almost unlimited possibilities of isomerism already mentioned, especially when we consider that proteins may vary both quantitatively and qualitatively.

The results of modern chemical studies show that the amino acid is the final product of digestion in the alimentary canal, that in this form protein is absorbed, circulated and presented to the cells for utilization. In view of the necessity of conserving the food supply, it becomes important to determine the minimum protein requirements consistent with safety. A dietary standard for protein must be one that can, without damage, be applied not only to individuals or small groups, but to whole nations. Recent experiments seem to indicate that at least one gram of protein per kilogram body weight must be furnished per day, or 70 grams of protein daily for the average man. This figure is considerably below the old standard figure of Voit, 118 grams. Metabolism studies over a period of five years made in connection with the elementary class instruction in physiological chemistry at the University of Illinois on 136 students with no restrictions on the diet, showed an average daily protein intake of 1.02 grams per kilo or 71.4 grams per day. While no absolute accuracy is claimed for these figures, they can at least be interpreted as showing that our student body is subsisting on a diet far lower in its protein content than the old Voit standard. It is also striking that the variations in the group from year to year are very slight.

The tendency to emphasize the importance of the amino acid as a factor in nutrition is also indicated in recent experiments with white rats. Osborne and Mendel and others have successfully fed young white rats on mixtures of purified food stuffs over long periods. By altering the character of the pure protein of such a diet, it is possible to study the efficiency of any protein. Studies of this type have shown that certain of the more complex amino acids must be furnished in adequate amounts in the diet in order to permit of normal growth. Thus, with zein alone, one of the proteins of maize, a protein which completely

lacks lysine and tryptophane, growth or even maintenance of body weight is impossible, while if lysine and tryptophane, the missing amino acids, be added, growth proceeds normally. The more important amino acids which must be present in the diet have been found to be histidine, arginine, tyrosine, tryptophane, lysine, and cystine. A protein which lacks any of these cannot serve as the sole source of protein of the diet regardless of the amount consumed. Thus where the protein of the diet is derived mainly from a single source, another factor enters in the consideration of the question of the protein minimum, the ability of the protein in question to furnish the necessary amounts of the essential amino acids. It is not difficult to believe that in the near future the physician in prescribing diets for a patient, instead of ordering certain amounts of meat, milk or the like, may rather call for a diet furnishing varying amounts of tyrosine, cystine, or the other important amino acids.

The second, and last, paper of the morning session was presented by Jakob Kunz, University of Illinois. His paper follows:

## Physical Foundations of the Theory of Relativity

Jakob Kunz, University

Most of the optical phenomena can be accounted for by the assumption of wave motions in a medium, called ether, which fills the space of the universe and penetrates between the atoms of matter. So we can explain the phenomena of reflection, refraction, double refraction, polarization, rotary dispersion, interference, diffraction, and standing waves. If we try to construct a physical picture of the mechanical properties of ether, it appears to have very surprising properties. It must be exceedingly dilute, in order to penetrate through all substances and in order that the earth and the planets suffer no resistance through this substance on their voyage round the sun. Moreover, polarization of light shows, contrary to the case of sound waves, that waves of light in the ether are transversal. But a gas or even a liquid is unable to give rise to transversal oscillations, which are only possible in solid substances. The ether should threfore behave like a solid substance, and if we give to such a substance the density of steel, then the rigidity of the ether must be over 3,000,000,000 times that of steel in order that the velocity of light should be equal to 300,000 km per second. But still greater difficulties we find in the conception of this optical medium when we consider the phenomena of aberration, the effect of Airy, of Fizeau, and of Michaelson-Morley's experiment. From aberration of light it follows that the space of the universe is filled with ether at rest and that the earth travels through this ocean with the same velocity with which it revolves around the sun. In other words, there is relative motion between the ether and the earth, just as between a moving ship and the ocean or between a train and the embankment and the quiet air. Now, if we stand on an open car in a fast moving train, we feel a strong wind or air drift. In the same way we should find in optical experiments an effect of an ether drift. No experiment yet undertaken to discover such an ether drift, gave a positive result. In an indirect way this ether drift was disproved by the experiment of Michelson-Morley. These men tried indirectly to measure the velocity of light in the direction of the ether drift and in a perpendicular direction. But they found no difference in the velocity of light. There is no relative motion between the earth and the ether according to this famous experiment. Aberration and the experiment of Michelson-Morley lead therefore, on the basis of the ether, to contradictory results. This contradiction disappears if we renounce the ether altogether and accept the theory of relativity. Moreover, it has been found that the electrons which are given out by radioactive substances with a velocity approaching that of light, have a greater mass than electrons which move with smaller velocity. The increase of the mass of an electron with in-

creasing velocity has been measured with great accuracy and has been found to be in accord with the formula given by the theory of relativity.

This theory of relativity consists of two very distinct parts,—the special theory and the general theory of relativity, both of which are due to Einstein, Professor of Physics in the University of Berlin. The special theory of relativity is based upon two postulates:

1. It is impossible to detect and measure an absolute uniform motion, i. e., a motion with constant velocity in a straight line.
2. The velocity of light in the vacuum is always the same, independent of the motion of the source of light or of the observer.

From these two assumptions very surprising conclusions can be drawn. Of two clocks which are constructed in the same way the one which is in uniform motion seems to go slower when judged by an observer at rest with his clock. In a similar way a measure stick which is in uniform motion seems to contract in its own length. A perfectly rigid body is impossible. Moreover, two events which are simultaneous to one observer, are not necessarily simultaneous to another observer. The whereabout depends upon the whenabout and the whenabout depends upon the whereabout, not only that, but each depends also on the velocity of an observer. Space and time become relative conceptions. This theory coordinates the apparently contradictory phenomena of aberration and of Michelson-Morley. Two constant velocities can not be compounded by the parallelogram method. A velocity plus the velocity of light gives again the velocity of light. A very important conclusion follows from this theory with respect to the relation between matter and energy. Every form of energy contains mass of inertia, so that energy is equal to mass times the square of the velocity of light. Newton's definition of force is slightly changed, enough to show that the mass of an electron depends upon its velocity.

When an electron describes an ellipse around the nucleus of an atom, we see from this variation of the mass at once that the ellipse can not stand still in space but that it rotates around the nucleus. This phenomenon is exactly analogous to the rotation of the perihelion of the planet Mercury around the sun, a rotation of about 41 arc seconds per 100 years, which has not yet been completely explained by celestial mechanics based upon Newton's law of gravitation. This leads us into the general theory of relativity, which is a theory of gravitation. It is based upon the assumption that every motion, accelerated or not accelerated, is a relative motion and that therefore the fundamental laws of nature must be independent on any system of coordinates.

That the fall of a stone in the field of gravity is judged in different ways by different observers is evident at once. For instance, if a man drops a stone in a moving car of a train, he will see the same straight downward fall with constant acceleration which he would observe if the train were standing still. He would also find the same result if he were to drop the stone outside the window. In this case, however, an observer on the embankment would say that the stone fell in a parabola. Now let us build in thought a high elevator, about 100 times the radius of the earth, so that in the neighborhood of the top the field of gravity vanishes. The elevator car can move up and down by means of pulleys and ropes. Let us make an experiment first in the lower end of the elevator. A man in the car drops a stone and finds that it does not fall at all. Looking through the window he finds that the car itself is falling downward with the acceleration of gravity. If the body of reference, the car, falls with this acceleration, then a stone, let go, does not fall. Now we will consider the car on the top of the elevator outside the field of attraction of the earth. The observer in the car drops a stone and expects it not to fall, because he knows there is no more force of attraction. To his surprise he finds that the stone falls in the same way as on the surface of the earth. Looking through the window he finds that the car is accelerated upwards with the acceleration of gravity. He concludes from this

experiment that a field of acceleration is equivalent to a field of gravitation. From this principle of equivalence, which presupposes equality of gravitational and inertial mass, we draw two further conclusions. If the observer in the elevator car outside the field of gravity throws a stone in a straight line, he finds that it describes a parabola, when the car is accelerated upwards. A beam of light, however, has energy and therefore mass of inertia; a beam of light moving horizontally in the car at rest on the top of the elevator will therefore also describe a parabola, when the car is accelerated. From the principle of equivalence it follows that a beam of light will also be bent in a field of gravitation. While this should happen in every field of gravitation, it can only be observed in a very strong field. So, when a beam of light from a fixed star passes near the edge of the sun, it will be bent, as in refraction. This phenomenon has really been observed by English astronomers in May, 1919, in the total solar eclipse, which they observed in South America. It is a very small effect, amounting to a deviation 1.75″ at the edge of the sun. This is the first time that an effect on light, produced by gravitation, has been observed.

The observer in the car outside the field of gravitation has also with him a source of light, for instance, a sodium flame and a spectroscope. He observes the line in the spectroscope, when the source of light and the spectroscope are in a horizontal plane. When the source of light, however, is on the bottom of the car and the spectroscope on the top, then the observer finds a displacement of the lines towards the red end of the spectrum, just as if the source had been moving away from the observer. Looking through the window, the observer finds that the car was moving upward with constant acceleration, so that during the interval of time in which the beam moved from the floor to the ceiling of the car, the velocity of the observer was increased relative to the velocity of the source of light. From the principle of equivalence it follows that the frequency of a source of light depends on the field of gravity. Under a high gravitation potential, the frequency is smaller than under a weaker potential. The effect is exceedingly small, amounting for a source of light on the sun to about 8 thousandth's of an Ångström unit, or about $10^{-10}$ cm. This effect is sought by the spectroscopists in astronomy. The results, so far obtained, are conflicting. If the prediction of the theory is verified, and no other explanation can be found, then the theory of relativity will take a predominant place in the physical sciences. And if this critical effect is not found, relativity will be dismissed.

In our intuitive knowledge we distinguish sharply between space and time. Of the four dimensional non Euclidean space-time continuum we have no intuitive knowledge. Space and time of our sense experience may be infinite while the physical reality, that space-time continuum, may be finite.

In order to understand the general theory of relativity, it is necessary to study first differential geometry, especially the theory of curvature of surfaces by Gauss and then the non-Euclidean geometry of 4 or n dimensions by Riemann.

## Physics Sub-Section

The Physics Sub-Section was begun by Thomas M. Barger, State Normal University, in a paper dealing with the so-called "project method" of teaching. Mr. Barger has found this method most satisfactory in his own experience. His paper follows:

## The Reaction of the Project Method

Thomas M. Barger, State Normal University

No one can grasp or get the full significance of what another person may say upon any topic unless he appreciates the point of view of the speaker. I must, therefore, present to you my point of view upon education in general,—upon educational methods, upon efficient teachers, and upon good teaching,—before beginning my discussion of an educational problem such as we have before us today.

The best statement of the aim of education that I know, is as follows: The aim of education should be to fit the children of any generation to live upon a higher plane of understanding and appreciation of their environment than that upon which their parents have lived. The words "understanding" and "appreciation" should be interpreted in their fullest meaning.

A teacher is efficient or not efficient in the exact proportion that his pupils carry away with them in usable form the substance of the matter taught.

Teaching is good or poor in the exact proportion that it compels the pupils to carry away with them in practical, usable form the substance of the subjects taught.

Holding the above points of view relative to the aim of education, the efficient teacher, and good teaching, and hoping to be and to accomplish the above, I have come to adopt the Project Method in my work, as I am convinced that it is the best and surest way of attaining these aims.

To me the Project Method means more than simply teaching by means of projects. I fully realize that many teachers of Physics consider it impossible to attempt projects in their work because of the lack of equipment, the lack of time allowed for the subject both in school and out, the number of other subjects to be taught by him, and the lack of understanding of how to proceed in offering projects to the class. I have heard all of these reasons given in explanation of why Physics teachers are not treating the subject in this way. It is to relieve just such conditions as these, that the Project Method finds its greatest chance to be of help. Of course this method is used in connection with the presentation of projects, but I also believe it may be used in connection with assignments made solely from the text book.

There have been many definitions of the project which are to be found in the literature of this subject for the past several years. But I now wish to offer a definition of the Project Method. To me the Project Method is a teaching device or method of instruction which leads the pupil to attack a lesson unit in the same sensible, logical way that he would attack a problem in his outside experiences. If you will consider this statement carefully you will see that it is somewhat broader and more adaptable than simply presenting or working out projects. It is easily possible to use this method and follow any text book that is on the market today. It simply means an arrangement of his questions by the teacher in making the assignment or in hearing the recitation, or both, so that the pupil must attack the lesson unit, or any one of them, if the assignment includes more than one, as he would attack a project. With a little practice this becomes very simple for any logically minded person, and such practice will prove of lasting value to those who may not be naturally so minded.

Possibly a specific illustration is the easiest way to make my meaning clear. I know a man who is teaching in a village high school where he is required to teach, —or possibly better, to attempt to teach, five science classes each day. One of these is Physics. While interested in projects, he contends that he has no time to plan or direct such studies; the most that he can do is to assign lessons in the text, hear recitations upon these assignments, and have the class perform certain

experiments found in the laboratory guide which is in use in his school. This man has my deepest sympathy, but I realize there are many other teachers of Physics in the schools of Illinois who have as heavy a daily load as this, and there are some who are required to teach as many as six classes each day. The Project Method can prove of great help to such teachers if they will adopt it, and it will be as great a blessing to the pupils in their classes. I might add that it is just as helpful to those who have but three classes each day.

Let me illustrate how this method may be used in connection with straight text book assignments. Suppose the lesson to be one in Mechanics and to include the screw as a part of, or the whole assignment. One way to approach such an assignment in the recitation room is to allow one or more pupils to quote from the text book what is said about the screw; have them tell that it is one of the simple machines, tell how it is made, tell what it is used for, tell that it may be compared to the inclined plane, tell that it gives enormous mechanical advantages, etc., etc., and finally close by stating that the screw may be solved by the formula $\frac{2\ \pi\ R}{l}$ where $R$ is the radius of the head, or the length of the hand spike, and $l$ is the distance between the threads or the pitch of the screw. This is followed by solving a few problems involving the screw, and the work upon this machine is completed. Perhaps the work is well done in this way, but I have my doubts as to the length of time such quoted book work will be remembered, and as to the ability it will give the pupils to solve practical problems involving this machine.

A recitation upon the screw, using the Project Method would proceed as follows: A member of the class would be called to the front of the room, given an ordinary wood screw and asked to determine its mechanical advantage. The pupil can do this after a reasonable amount of thinking, provided he has mastered or understands what the text has said, but he cannot do it if he has simply memorized the words of the book and the formula. It is easy to see that before the pupil can determine the mechanical advantage of an ordinary screw, he must marshal in orderly array in his mind all the knowledge he has been able to get from his study, and to apply it to this specific machine. To bring a screw to class whose mechanical advantage has been determined at home can well be made a part of the assignment, and this at once becomes a project for each pupil. After this step is clearly understood by all members of the class, the question as to why the screw driver is used, should be brought up by the pupils or teacher, and discussed fully so that all will understand that it is used to give the screw a much greater mechanical advantage. This discussion can be followed by the commercial applications of this machine and problems worked which relate to these. Such a handling of the screw will not only broaden the pupils' view of this machine but will fix it in their minds so that the information will stick, and they will be able to "see" it when viewed in any of its various forms in after life. The Project Method is as simple as this, and it is as efficient as it is simple.

I have made this rather lengthy preliminary discussion of this subject because I know there are a number of teachers of Physics here this afternoon who have not been with us the past four or five years that projects have been the theme of our general discussions in this section.

The reaction of pupils to projects and to the Project Method is very marked and entirely satisfactory. When they come to me their idea of a recitation seems to be to repeat, either verbatim, or in thought content, the paragraphs or pages which have been assigned. When they are not allowed to proceed thus, but are asked to do something and not quote the book, they are more or less confused, and a considerable number of them are completely lost. But it is surprising how quickly they "catch on," and then they really enjoy the work, are interested in it, and take it home with them and use it. With most classes it takes from two to six weeks before all have been able to orient themselves and their minds to this way of approaching an assignment. For so many years they have studied lessons

with the sole idea of reciting them that it takes time to realize that now they must study an assignment until they comprehend all that it contains so that they can take advantage of what it says and use it. After this orientation is accomplished the work becomes a pleasure both to teacher and pupils. This method teaches the pupil to attack a problem logically, to think it thru to the end, and then to make a practical application of it. Illness has kept me from school all the present week. I appointed a student in each of my Physics classes to take charge of the work in that class, and it has gone along as steadily and successfully, I suspect, as tho I had been there. This shows what two months of the Project Method can do.

The reaction of this method upon the teacher is much the same as upon the pupils. It is rather difficult at first and requires a considerable amount of patience upon the part of the teacher to get the pupils weaned away from their old ideas of a recitation and of reciting. But, when this is once accomplished, the work becomes very interesting and encouraging. It is especially pleasing to have pupils return in after years from college or from the various walks of life and tell you how much good they derived from their work in your classes; how they never knew how to study until they took Physics; that they would have failed in college had they not been shown by you how to attack a problem by themselves and think it thru to the end; and many other similar statements. I am sure there are none of us who do not appreciate such statements from former pupils.

After experimenting with this method and trying it out for a number of years, I have adopted it without reservation, as superior to any other way of teaching, and I do not hesitate to recommend it to all teachers.

The second number on the program by John K. Skinner, Nicholas Senn High School, Chicago, brought up many questions of vital importance in connection with the aim and content of the high school Physics course. His paper follows:

## Classification of Students in the Physics Department

John K. Skinner, Chicago

Our high school courses are outgrowths of the New England Academy. They are courses which have been framed for the purpose of preparing students for special future training,—for the ministry, the law, medicine, or other profession,—a means to an end, not an end in themselves. They are, even yet, courses preparatory to college. College courses have increased in number as professions have increased, and a great many courses have been introduced that do not prepare directly for any profession. High school texts have been written by college men with the purpose of preparing the student for college courses.

A great change has come with the increased numbers in the high school, with the revival of interest in education resulting in compulsory education laws. Vocational courses in the high school have increased in number and a great percent of our high school students are going to college. This all involves a greater need for classification. The question comes, "Should all high school students take the Physics course?" It seems natural that to this large number a course preparatory to college should be offered, and another should be offered to those whose school days end with high school. Carefully prepared and clear cut ideas should be presented in each course, one to prepare for college, the other to prepare for life. As we sometimes say when we begin the study of "Sound," "That *sounds* well."

Who will prepare the college preparatory course? College men? Then they should teach the course. High School men? Then they must know the college courses. How many older people visiting our colleges today, express the wish that

they could take the college course of today? High school teachers are very slow in changing their courses. College men give their own courses. Little is fixed in many of our college courses, and rightly so.

Choosing between courses is one of the big tasks of the high school student today. No choice can be given in the small high schools as they can offer only required courses, but with our large high schools the student is finding entirely too many courses from which to choose. Why do they choose the Physics course at all? From two sources of information: (1) from what those who have taken our courses say about them; (2) from our advertising.

In large high schools, advertising is becoming more and more a necessity. Out of thirty-two hundred pupils in one school, it seems that eight hundred should be taking our course. Making an allowance for two hundred dropping out, of the six hundred left we have fewer than half of them taking our course. We all say the others should not miss it. How shall we get them? Surely not by dividing the course, but by putting into it that which will assist materially in fitting anyone for life, not for college; then teaching it so well that any of our students will advertise it for us, and any college will be glad to get our students.

The college instructor of today desires certain fundamental ideas mastered, rather than special preparation made for his course. He cannot hope for the latter. He complains that he does not get the former. It is our business to see to it that this cause for complaint is removed.

"Teach the student, not the subject," is good. What I take this to mean is using the subject to change the student into what we wish him to be. We have the subject with which to teach the student if we can only agree on what shall be mastered in our course by everyone. How we do wish that certain ideas could be fixed in the lower grades, but we cannot change those conditions except by teaching the ideas ourselves. We can, however, fix certain ideas that will help the college man, and these same ideas can be applied in any life work.

Some will say "Minimum essentials" has been our cry for years. True enough, but we have spent more time on our differences than on our agreements. Each one wants his own pet ideas accepted by all others. Then the new is always attractive, but this is educational only so far as it can be related to the old. The multiplication table will be valuable throughout our time. Our basic physical laws will always be valuable. Their applications are numerous and changing, but these laws remain constant. Let us take up or keep up the work of getting students to *master* some of them.

To give you my meaning of mastery, let me give you a borrowed illustration. Many Physics teachers of the State read the program for our section and decided to attend. Some may have been prevented from even taking the train. Others may have come to Champaign, and have been attracted to another meeting, or may be detained at the hotel. Some one may even be in this building talking to an old friend he has not seen for years. Those of you who are here have accomplished your aim. As to attending this meeting, the others have all wasted their energy. Physics teachers did or did not attend. Each teacher succeeded or failed. No one can be said to be 75% or 80% present at this meeting.

The same is true of the work of the student. He either gets or he does not get the idea. When he is made to feel that he either succeeds or fails with each big idea in our course, and he completes the course only when he has mastered each big idea, he take a different attitude towards the work.

But I have said, not division of classes, but unity. There are many, no doubt, who believe the division should be made. Of those I ask:

1. Are high school sophomores, as a rule, decided as to their college intentions?
2. Could a college preparatory Physics course be planned suitable to any college course one may choose?

3. Is our present success sufficient to warrant the establishment of two courses?
4. And last, what are the advantages and disadvantages of dividing our students into two groups?

The final paper presented at the meeting of the Physics sub-section dealt with a most important phase of Physics teaching, the supplementary material which compels interest and by practical application makes real the principles summarized in our text-books. Mr. Tower's paper follows:

## Reference Reading in Physics

**Willis E. Tower, Chicago**

High school physics teachers frequently wish to refer pupils to additional reading upon topics that are incompletely discussed in textbooks, or to new and interesting developments of scientific investigation, or to practical achievements in the domain of physics.

It is of great advantage to have books and current periodicals which contain material of the sort just mentioned. In some schools, department libraries are available, containing the books and magazines needed for this purpose; in others, there are general libraries to which pupils may be sent, where during study periods books and magazines may be read, or taken home over night.

In my own experience, we tried first the departmental library plan. By purchase and by donations from interested persons we secured after several years work, some one hundred books. These consisted of physics texts, both high school and college, popular scientific books, like Arabella Buckley's "Short History of Science," Cajori's "History of Science," Williams' "Nineteenth Century Science," "The Romance of Engineering," etc. together with a number of books on special subjects; as "Soap Bubbles" by Boys "Light Visible and Invisible" by S. P. Thompson, "Sound" by Tyndall, "Element of Electricity and Magnetism" by S. P. Thompson, etc. We also took the "Scientific American," "Popular Mechanics" or a monthly that was like it, and School Science and Mathematics.

The pupils read many of the books, also the periodicals, and we felt that it was worth doing. It takes time, however, to give out books and papers, to check them up and see that they are returned promptly. More time than a busy physics teacher, who also has extra curriculum duties, can afford to give. Consequently, when a branch of the Chicago Public Library was established in the Englewood High School, we transferred many of the books most often called for, to the library shelves where the librarians look after the distribution and circulation better than we did in the laboratory. The library also has better facilities for supplying and caring for magazines and other periodicals than the class room and laboratory; especially when the needs of 225 to 250 physics pupils are to be considered.

Mainly on account of our large number of pupils, we have never systematically required reading of reference books in physics by all of our pupils. Pupils are encouraged to read them, and reports are given from time to time, by individuals, of helpful and interesting books, or chapters, or articles, found by them either in the school or outside of it. Discussion of these reports leads to the ability to discriminate between the "scientific" articles found in some of the Sunday Supplements of news papers, and the carefully prepared statements of men engaged in scientific research, "Science," published by the American Association for the Advancement of Science, contains papers and articles of the latter description.

Such articles appeal strongly to the more thoughtful members of our physics classes, once they appreciate the accuracy and care with which they are prepared and the authority of those who have written them.

In our physics classes are pupils having a wide variety of interests, such as wireless, electricity, mechanics, etc. We do well to supply material to meet this interest and to direct it. The wise teacher may be able to do some effective vocational guidance, after observing the pupils interests and abilities.

Reference reading in high school physics classes should be for information and inspiration. The pupils should be led to see that it provides an opportunity for a better knowledge of the subject and for a wider comprehension of its practical applications.

In any school, even the smallest, there sohuld be provided for reading by the pupil and the teacher, several of the best high school physics tests and some college texts. The latter should be selected with care, for some lend themselves much better for reference reading than others. Added to these from time to time should come the popular books and those on special subjects. In fact, it would be well to include some of these at the start. The teacher may benefit most of all from these books, for they will give him new ideas for illustration and suggestions for presenting certain topics experimentally, or by demonstration before his class, that will add much to the attractiveness of his teaching and to the interest with which his pupils pursue the subject.

Our pupils in physics should finish the subject feeling that it is one that no wide awake student can afford to miss. They should be shown its direct application to the affairs of our daily life, and this may be done so that its value in explaining the physical phenomena about us will be fully appreciated. Our high school course in physics should not be a course in applied mathematics, but rather a scientific study of the physical facts and phenomena about us and a comprehension of the laws and principles underlying their explanation. An adequate supply of material for reference reading is a positive aid in this when properly used.

Since the most important factor in any course is the teacher, the reference books, magazines, etc., should be first read by him. Only when he is master of this new material, is he able to make the best use of it when referring pupils to it. For this reason it is often a good thing for a teacher to be guided somewhat by his own interests in securing new reference material. That which he has a direct interest in, will he be able to assign with the most effectiveness and he may carry his class along with him as he grows.

### Chemistry Sub-Section

In the program for the Chemistry sub-section, H. C. Morrison, School of Education, University of Chicago, was the first speaker. In an interesting way, Mr. Morrison presented a way of teaching Chemistry that is certainly worth trying. His paper follows:

## Instructional Technique in Science

**H. C. Morrison, Chicago**

I am thinking primarily of the systematic course in Chemistry which is commonly given in the third or fourth year of the secondary school. I believe, however, that the principles which I venture to discuss with you apply with equal force to any systematic work in Science, which is below research level, as distinguished from the non-systematic, experience-getting type which we have in the elementary school.

I assume that we shall agree that the practical purpose of the course in question is a general survey of the field of Chemistry, with the specific object of generating power to think in terms of chemical principles. Most of our content subject courses in the High School and in the Junior College have essentially that same underlying purpose. For instance, a serious course in History is, or should be, in the end, calculated to generate power to think in terms of the drama of social events as they are unfolded in the record of the past. Any such course seems to me to be subject to certain methodical principles of teaching which cannot be violated without serious lack of economy in teaching, at the best, or wholly inadequate results, at the worst.

At the outset, I wish to note that a large part of the average text in Chemistry is not concerned with the principles of Chemistry, but with a very scrappy description of the substances with which Chemistry has to deal. You are pretty apt to find, to be concrete, the last quarter, or third, or half of many texts given up to descriptions of elements and substances which themselves have no very vital part in the framework which constitutes an understanding of Chemistry as a Science. There is a brief discussion of the smelting of iron, a paragraph on the occurrence of gold in nature, and a succession of paragraphs dealing with the rare earths,—purely educational journalism. All of this represents material which the pupil can get, or should get, by extended reading, most of which should be brought into the class in class reports. The vital point is that none of this contributes in any way to the specific object of the course, and its presence is more than likely to muddle High School students who are, after all, in no position rightly to evaluate the relative importance of what is laid before them to study. Having acquired definitely and without question the power which it is the object of the course to generate, all of this sort of material about which I have just been speaking can be gathered in now, or later, or not at all, as it happens to be needed in the student's after life.

Our first problem is to organize the course into a series of units which cover the ground and tell the story. Each of these units should be a large whole about which clusters a body of chemical principles which find their illustration in the central idea of the unit. For instance, oxygen and oxidation may be made a unit because it tells a very considerable and vital part of chemical theory. So with hydrogen; so with solutions; so with acids, bases, and salts. To organize the course into a series of understandable and significant units requires, in the teacher, first of all, a thoroughly competent appreciation of the laws of Chemistry, and likewise a competent pedagogical judgment in the selection of materials which actually tell the story in succinct and illuminating form. The number of such units necessary to cover the ordinary course is comparatively small. Our Science Department in the University High School makes out about fifteen.

Each unit must then be taught as a whole, and not as a succession of lessons. Failure to acquire this power in Chemistry, as in other subjects, is most frequently attributable to the principle that in the learning process nothing specific and definite to think about has been furnished. As the pupils delves on day after day with the minute portions which make up his daily intellectual nutriment, he is never at a point, except casually, where he can see the principle in the large, and be it said, principles always must be seen in the large. The number of large principles which are the piers on which the bridge is carried to a practical apprehension of the objective of the course, is relatively small in a Science course.

Having selected our units, effective teaching becomes possible; and it directs itself to the mastery of the unit by every member of the class, or else identification of that comparatively small number who, for one reason or another, are hopeless in this particular course. The mastery of each unit will be assured through actual understanding, by the students, of the principle, with which that unit is concerned. The teacher must accept a large responsibility here and realize that it is his task, in one way or another, to so present the unit and so manage its study

that this understanding will, as a matter of fact, register in the minds of the students. While he is teaching Science, he must also be doing scientific teaching; and that means, in this particular instance, that he will test from time to time, with the single object in view of ascertaining, for his own guidance, whether or no the evidence indicates that his class is grasping the principle. It would be a rare teacher and a rare class which, upon a single presentation of the principles and a single survey of the field in which the principle is illustrated, would have acquired an actual understanding. On the contrary, to arrive at the end toward which we start, we must teach, and then test, and then teach again from another angle, and so on until the evidence shows that the principle has, as a matter of fact, been grasped.

Contrasted with this conception of a scientific and systematic teaching procedure is that conception of teaching which provides for the laying out of a series of lessons and exercises, the passing over by the class of the pathway thus laid out, and the grading of students on what seems to be the relative approach to completeness with which the different individuals have apprehended the principle taught. There can be no *degree* of completeness, nor can there be any *degree* of approach to understanding. One understands or he does not, sees clearly or sees vaguely. True, individuals may vary greatly in the relative breadth and depth with which they see the bearing of a principle; but there is always some minimum point below which the principle is not grasped at all. The utter fallacy of much of our current classroom procedure consists in the assumption that a vague, often a very vague, approach to understanding, is understanding.

Furthermore, I think it can be shown very clearly in any school that what results from the day by day assigning and hearing of lessons, and recording of numerical evaluation of recitations is not, in most cases, understanding of principles, growth in capacity to think in chemical terms, or revelation of these and other valuable capacities, but rather a steadily increasing power to get lessons.

It would be unfair for me to leave the discussion at this point without indicating, although ever so roughly, the procedure in teaching which is capable of achieving the kind of objective above set up. I feel under obligation to picture to you concretely just what I mean by the converse of the lesson-hearing procedure.

In the first place, as the teacher approaches the study of each unit, he should see that the class as a whole gets a clear, vivid idea of the principle as a whole,—a bird's-eye view of the ground which they are to cover. Two things result, or should result, at this stage. In the first place, students are trained in a much needed capacity, namely, ability to listen at length to the spoken word; and, second, they are trained to get the whole story at a single sitting, to see things in the large. Here, as elsewhere and always, the teacher certainly ought not to go on until he has good evidence that the students do indeed see the thing in its broad outlines. The teacher is dealing with a sketch, and not with a finished drawing. He should have evidence that students see it in that way and to that extent.

This presentation of the unit as a whole will be followed by a prolonged period of study, laboratory practice, and extended reading. People may catch a glimpse of a principle, indeed may actually see it and catch its bearing; but we know that they cannot understand it to the point of realization until they have lived with its manifestations in a variety of forms for a very considerable period. The earlier procedure is like an introduction to a stranger. This long assimilative period is analogous to the process of getting acquainted with the stranger. I wish to emphasize briefly two aspects of this portion of the work.

In the first place, it seems to me that we have got to learn to view the latter period, as I think most of us are viewing it nowadays, as being primarily and essentially an opportunity for the pupil to get in concrete touch with what he is studying,—to see in the form of real manifestation, how the principle works

itself out. If this view of the practical purpose of laboratory is sound, then we ought to relieve ourselves of the belief that the real purpose of that period is to train pupils in the discovery of new truths, or in the pursuit of scientific investigation.

In the second place, it seems to me quite evident that no real assimilation of a definitely determined principle, or body of principles, is likely to be achieved if our laboratory exercises consist of a pre-selected and pre-determined standard list of experiments. We can, to be sure, very easily guarantee that a student will pass through such a standardized list; how can we guarantee that he has out of it contrived to secure a definite, usable body of principles? On the contrary, the teacher ought to select the laboratory exercises and materials which he proposes to use for the making clear of each unit. He will have some lecture demonstration to do and his students will have some exercises to work out at the laboratory tables; but they will be strictly related to the specific purpose he has in mind for that unit. If he is a progressive, thoughtful teacher, imbued with the scientific spirit in teaching, he will inevitably modify these exercises year after year as he returns to the modification of the unit which he proposes to teach.

On the other hand, one of the essentials, it seems to me, of a thorough-going acquaintanceship which makes for real understanding is a body of extensive reading. While we shall always need, at High School level, a thoroughly well organized basal text, we shall continue to leave the High School pupil in a state of more or less intellectual starvation unless we provide him with a very considerable range of reading material. I should like to see every chemistry classroom made a chemical library in which there would be an adequate supply of literature, including periodical literature, selected in such a way that no pupil in the class would ever find the classroom, during his course, inadequate to his needs. Then I should like to see the daily, dreary grind of lesson-hearing and marking give place to two or three weeks on each unit in which students come to the class-room, and put in their hour, or two hours, in supervised study, under the eye and with the guidance of the instructor.

I suggest that on the average each unit should require about two weeks, the largest part of which will be available for the period of assimilation which I have just been discussing. When the teacher has reason to judge that that period is complete, then the class comes to the classroom, prepared to organize what they have done in the last two weeks, or thereabout, into the form of a syllabus. They have no note-books, no memory joggers,—nothing but their heads and a pencil and paper. They sit down and for an hour practice the lost art of meditation in putting their thoughts together in coherent form in logical order. This is not done well at first; but, if no syllabus is accepted until the teacher is sure that it is done as well as the student can do it, I assure you that progress is rapid. On the final day or two of the period devoted to the unit is a series of floor talks by members of the class upon the unit itself. By this time, they have really got something to say. There is a basis for valid, useful English composition. They may be asked to cover the story of the whole unit, as the teacher originally did; they may be asked to be prepared to discuss at length, with such lecture table and blackboard assistance as they need, any phase of the unit which has appealed to them. Experience goes to show, I think, that at the end of the study of a unit we should have full understanding from all, but each individual will see the unit from a somewhat different angle, as he should and as is desirable. It is evidently out of the question to expect that in a large class there will be time for floor talks by everybody. Those who do not react to the unit orally may reasonably be expected to react to it in a written paper, preferably done in the classroom, or in the school's main study hall, and not done under circumstances in which it is likely to be a mere compilation.

As practical teachers, you have long been asking the question "what shall we do with the exceptional student?" It is unquestionably true that individual students learn more rapidly than others, and show a capacity to go farther. This

is as it should be. We do not know who those people are until we give them the fullest chance for development, and they are pretty apt to develop during the long assimilative period. They finish each unit consistently before the other members of the class. Their case is taken care of by the excess credit device. That is, each is allowed to select for himself, under approval, some enterprise of considerable importance involving independent study. It has been very impressive to me personally to see the grade of work of which some High School pupils are capable, when they are given the opportunity. I conceive this to be one of the largest opportunities of the school and one of its heaviest responsibilities, to wit: to discover potential scholarship, and potential leadership, and productive capacities, as the pupils are passing on through, and really develop them by giving them work to do.

In fairness to you, I must call attention to the other end of the class. There are usually some few individuals who are really problem cases. When a school is completely deformalized and completely systematized on the basis of thoroughgoing teaching in the scientific spirit, I am confident that there will be a far smaller number of these problem cases than we have at the present time. I am quite willing to admit, however, that we are likely to find something like 5% which result on account of no fault of the teacher or of the school. I don't believe those people should be excluded from the school and credited with failure to pass, or otherwise penalized, until we know just what sort of folks they are. In the end, if there is any failure to deal with, it is our failure and not their failure; and we shall sometimes fail because no school and no teacher will ever be perfect. Accounting for these problem cases in any subject is a field which requires a great deal of study. We can say with considerable confidence that nobody has yet found any one method of dealing with them, or any one way of accounting for them. Some are the victims of poor teaching in earlier years; some of them have psycho-physical maladies, or have had them, of one sort or another. A very few of them are actually mental low grades. More of them, for some obscure reason, fail to make any contact with our subject. As soon as their cases are definitely made out, I think the administration of the school should be prepared to take them out of the course, and put them into some other course where they can still perchance achieve some intellectual profit. It may be that they should definitely be dropped from the school.

I close with a final estimate of the product of efficient Chemistry teaching at high school level:

First, competency and capacity to think in terms of Chemistry in the case of the body of the class; and,

Second, discovery and partial development of potential chemical talent.

The next paper, The Value of Valence and When to Teach It, was presented by E. E. Rademacher, Nokomis. It follows:

## The Value of Valence and When to Teach It

E. E. Rademacher, Nokomis

In Chemistry as in other science there are, in the main, two things to be considered:—method and results. There is no doubt an enormous mass of facts from which we have to select the indispensable things for the beginner, and again there is the general procedure or method by which those facts have been ascertained.

The object of this subject: THE VALUE OF VALENCE AND WHEN TO TEACH IT, is principally two-fold, as the subject itself indicates.

*First: The real Value of Valence to the student.*

It is not my object to discuss this part of the question as fully and in such detail as the second part of the question. The writers of Chemistry texts do in general agree as to the value of Valence altho some give to this subject more space than others. No text gives enough drill on this important subject.

Valence is not a fact. It is an attempt to arrange the facts of our science according to the idea of combining power, just as books are classified in a library to subjects. One of its chief values is to assist the student in becoming familiar with the formulas of the compounds; how and why they are written as they are. We all know the subject of Chemistry is filled with formulas and equations and it stands to reason that we should devote the proper time to a subject, which assists the student directly in becoming familiar with this something that stares him in the face almost every time he turns a page. If the student knows Valence he can reason the formula of a new compound. If he does not know Valence he must first be told what the formula is and then must simply memorize it.

Valence is the backbone of Chemistry. Without Valence you are a chemical corpse. Without Valence you cannot write formulas, without formulas you cannot write equations. If you cannot write equations it is impossible to either predict or undertsand chemical changes. If you cannot write equations you are at a loss to solve problems. If you do not know these fundamentals of Chemistry you are minus the principles of Chemistry; you lack the foundation upon which the chemical world is built.

*Second: When to teach Valence.*

This is a problem that many teachers as well as writers of Chemistry texts disagree upon. The main difference comes in trying to answer the following question: Should Valence be taught before or after formulas and equations? The writer has tried both methods. When Valence was taught *after* formulas and equations, the student seemed to be puzzled throughout the entire course in writing formulas and equations. A test on this was made from two of my classes in Chemistry. Fourteen students averaging about the same grades in various sciences were divided into two sections, Section A and Section B. To the seven students in Section A, Valence was taught before formulas and equations and to the seven students in Section B, Valence was taught after formulas and equations. Please remember that pains and interest were taken in both sections to make the three subjects, Valence, formulas, and equations clear. After giving five recitation periods of instruction to each section, the two sections were united and given a quiz consisting of the writing of twenty formulas and twenty equations.

TABLE I

SECTION A

| Total Formulas and Equations | Right | Wrong | % Right |
|---|---|---|---|
| Formulas . . . . .140 | 127 | 13 | 90.7 |
| Equations . . . . .140 | 121 | 19 | 86.4 |
| Average | | | 88.5 |

SECTION B

| Total Formulas and Equations | Right | Wrong | % Right |
|---|---|---|---|
| Formulas . . . . . 140 | 102 | 38 | 72.8 |
| Equations . . . . .140 | 93 | 47 | 66.4 |
| Average | | | 69.6 |

Out of one hundred seventy five letters sent out, to different Chemistry teachers over the state, 83 replies were received of a definite nature. Personal letters were not requested but 14 personal letters were received expressing their experience as to the teaching of Valence. In thirty eight of the replies, the writer expressed his or her desire to have the proceedings and general data from the discussion on this topic sent to them as they would be unable to attend the Convention, but were intensely interested in the subject.

More interesting conditions are revealed as the answers to the eight questions are compiled.

TO CHEMISTRY TEACHERS WHO ARE EITHER TEACHING OR WHO HAVE TAUGHT CHEMISTRY

It is with particular interest that I am sending you this Questionnaire and I hope you will cooperate with us in discussing this great problem, "THE VALUE OF VALENCE AND WHEN TO TEACH IT." You will note in the State High School Teachers' Convention to be held at Champaign, Nov. 18, that this is the topic for discussion in the Chemistry Section.

Let me urge you to be present and be prepared to give us your viewpoint on the subject.

May I ask you to please fill out the blanks in the Questionnaire and return them to me at once in the self-addressed and stamped envelope?

I wish to thank you in advance very much for your cooperation.

I assure you that your efforts will be worth while and that we will all benefit by it.

THE VALUE OF VALENCE AND WHEN TO TEACH IT.

QUESTIONNAIRE

1. Do you teach Valence before or after Equations and Formulae?.....
2. Why?.....
.....
3. Do you find it difficult for the average pupil to understand Valence?.....
4. What textbook are you using in Chemistry?.....
.....
5. Is Valence placed in your textbook before or after Equations and Formulae?
.....
6. Will you try and be present at the State Convention and discuss this problem with us?.....
7. To what extent do you use atom models for making the conception of Valence clear?.....
.....
8. What methods do you use for keeping the idea of Valence constantly in the mind of the student?.....

Your name .....
School .....
Address .....

Space does not permit a detailed list of the answers to the questions which were asked in the Questionnaire and for this reason the answers have been briefly summarized as follows:

Question No. 1.—"Do you teach Valence before or after Equations and Formulae?" Of those who replied, 33 answered "before;" 26 answered "after;"

18 answered "together;" 4 answered "with formulae and before equations;" and 2 answered "after formulae and before equations."

Question No. 2.—"Why?" Of those who replied "before equations and formulae" there were about fifteen who believed that it was impossible to understand formulae and equations without knowing Valence. Four felt that Valence, when taught first furnished the answer to questions as to why AgCl and $BaCl_2$ are written in this particular manner and no other. Two considered the memorizing of the valences of the more common ions and then applying them to the formulae as being easier than memorizing the formulae themselves. Five found that this method served as a direct help in understanding formulae. One reason as given was that without valence you cannot write formulas, without formulas you cannot write equations; if you cannot write equations you cannot predict or understand chemical changes. Also without equations you cannot solve problems. And without these you do not know Chemistry nor the principles of Chemistry and have no foundation to build upon. Hence this person teaches it before. Another teacher gives a simple talk on valence in the beginning of the course and works it in so that the students understand it thoroughly by the end of the first month. A number gave no specific reason for their answers.

Those who teach valence after equations and formulas submitted the following reasons: Ten thought the learning of formulae and their subsequent use in illustrating valence to be the more logical way. Three believed it better to wait till the learning of equations and formulas caused the students to ask why the elements united in a definite ratio and then use valence as the answer to his question. Two considered that observation came before equation and hence there was no need for valence till there was something to apply it to. One reason given was that formulas learned first gave a visual aid in writing correct formulas using the valence when it was taught. Another chose to follow the discussion of the Atomic theory with the presentation of valence.

Some taught all three together and the reasons given for this method somewhat overlap those given for the other two methods. They are: Equations cannot be balanced and understood without the conception of valence being introduced simultaneously. Four gave this reason. Three gave their reasons as being the fact that this method gave a better and clearer idea of equations. Another considered it impossible to separate the three in teaching them.

Question No. 3.—"Do you find it difficult for the average pupil to understand Valence?" 42 replied "no;" 29 replied "yes;" 11 replied "rather," and one replied "depends on the teacher and the text."

Question No. 4.—"What textbook are you using in Chemistry?" The summary of the answers to this question is: Using "Brownlee and others," 36; using "McPherson and Henderson," 17; using "Alex. Smith," 11; using "C. S. Dull," 6; using "Smith and Mess," 4; using "Morgan and Lyman," 2; using "Hessler-Smith," 1; using "B. F. H. S. and W.," 1; using "Newell," 1; using "mimeographed references," 1; using no book, 1.

Question No. 5.—"Is Valence placed before or after equations ond formulae in your textbook?" 35 replied "after;" 29 replied "after formulas and before equations; 10 replied "before;" 4 replied "together," and 5 did not answer.

Question No. 6.—"Not relative to the paper itself."

Question No. 7.—"To what extent do you use atom models for making the conception of Valence clear?" About forty do not use models, while some use various types of models. Diagrams and structural formulas are used to some extent by several replying to this question.

Question No. 8.—"What methods do you use for keeping the idea of Valence constantly in the mind of the student?" It was found that twenty-two simply refer to it constantly in taking up new formulas and equations and in reviewing

the old ones. Twenty-one use frequent drills in formula and equation writing. Regular review with quizzes was the plan followed by seven and another group of seven used structural formulas throughout the work. Other methods used are: prediction of formulas and equations by valence; use of valence in problems and equations; use of tables of valences in class work; writing the valence of each element in every reaction studied. One teacher made use of frequent reference to his own experience in practical industry showing the value of valence in that connection.

You will notice from the data given that nineteen who teach Valence after formulas and equations find it difficult for the average pupil to understand and seven do not find it difficult. Twenty-four who teach Valence before formulas and equations do not find it difficult for the average student to understand and nine find it difficult. Eleven who teach the three together say "no," and seven say "yes" to the question. Two who replied "with formulas and before equations" say "no" and two say "yes."

From the replies received you will notice the great difference of opinion on the various questions. Attempts should be made to get together on the methods of teaching Valence and its connecting topics. You will agree that the various texts differ extremely as to the order of presentation of these topics. It is true that we all have our individual opinions, but there should be one logical order in which to develop the entire subject.

The final paper presented to the Chemistry sub-section was given by William F. Einbecker, Deerfield-Shields High School, Highland Park. Mr. Einbecker's paper follows:

## The Chemistry Exhibit as a Project Review

**William F. Einbecker, Highland Park**

*Change in Science Teaching*

During the last six or seven years, there has been a big advance in educational methods in high school science. This advance was inevitable; education is a process of evolution, and educators must obey the laws of life, changing their methods as experience and environment direct. The change has come in science teaching with the introduction of the project method. It is not my purpose to discuss in detail the project method as applied to chemistry. I merely wish to offer to you a few ideas which I believe have made my teaching better than it would otherwise have been. Discussions centered upon the advisability of introducing the project method into our teaching have done much to remedy glaring faults in our methods in the past, and I believe they will do so at present. A year or two ago, we were all so enthusiastic about the project that we were in danger of forgetting that there were other methods that had a place in the educational process.

*Faults in Present System*

Laboratory work in chemistry must of necessity take a prominent place in the program if our students are to make any practical use of their study or are to remember what they have studied for any considerable length of time. Perhaps the memorizing of textbook information and the emphasis on textbook work cannot be avoided as long as our present system of examinations exists. At present there is no adequate way of examining students in laboratory work when they enter college, take civil service examinations, or apply for a position. Have you never felt that many parts of your texts were too abstract, too technical in their terminology to be understood easily by your pupils? Yet your students are compelled to memorize this material because both you and your students are

judged by the amount of this textbook material that is memorized. Perhaps these faults can be remedied by improving our textbooks. However, in the meantime, most teachers cannot write their own texts and must use what is available. For the average high school teacher there is one other course open, and that is to improve the laboratory work.

### *Laboratory Work and the Project*

I think most of us realize that the laboratory work is the vital part of our course, whether we give it that place or not. The world is full of living, useful, and interesting materials which students will study if given the proper encouragement and help. The textbook is after all only the textbook and not Chemistry. The question in our minds then is, usually, not, "Shall I teach laboratory work?" but "How shall I teach it?" Laboratory work in Biology, Physics, and other sciences has been greatly improved by the introduction of projects. Undoubtedly there is a place in Chemistry for "a plan of action, which, when carried to completion, results in something accomplished." In the short time that I have been teaching, I have endeavored to find this place for the project method.

### *Another Change in Teaching*

Before I discuss the place of the project, I want to call your attention to another change in the method of teaching Chemistry. During the past two years we have been hearing much of the annual exhibit of the work done by the students. The Science Show has done much to motivate the work of many teachers. In my teaching I have tried to combine both the annual exhibit and the project method, and I believe this to be an excellent combination.

## Contrast in Methods

### *The Usual Method*

In the usual method of teaching laboratory work, the student is given a manual, some materials, his textbook, and a few reference books. He is told to go to work, being left more or less to himself, asking questions of his instructor or referring to his books from time to time. His laboratory work is separate from his recitations, and both of these are separated from the lecture work. If the work is coordinated the text usually receives the emphasis. The great advantages of this method are:—the teacher can divide his time evenly; the class can cover a large amount of written work; and the pupils can make a good "showing" in examinations.

### *The Project Method*

In the project method, the materials may be the same, and the same work may be accomplished, but the emphasis is entirely different. The instructor endeavors to lead the student into some difficulty. The student is then led to make out a plan of action which, when carried out, will solve his problem. In the project method of teaching a course in Chemistry, the first step is to collect a large number of materials, finding out, as often as possible, the composition and behavior of each. Then we may determine how each is prepared and how it is used. In studying these materials the question eventually arises, "What is the length, breadth, volume, or density of this sample?" or "How is it affected by light, heat, or electricity?" The student can be made to realize that he must know how to make certain measurements before he can continue his study systematically. After the study of physical measurements, the effect of physical forces on different substances, mixtures, and solutions may be observed. In this way the entire subject of General Chemistry may be developed. The great advantage of this method is that the student is taught to think for himself a large part of the time. He must gather information and data, classify facts, reason, and draw his own conclusions. The disadvantages are that there are no textbooks on the market that are complete and depend upon this method; the teacher must work day and night

preparing outlines of work for his class, or neglect about half of it; furthermore, students cannot discover all the fundamental laws for themselves; and finally, much information that could be memorized or secured in some other way advantageously must be neglected because of the large amount of time devoted to the principal topics.

*The Importance of Review*

Laboratory experiments are too often just laboratory experiments. We make little or no use of the principles of review, and yet we expect our pupils to remember reactions, laws, and formulae. The "Chemistry Exhibit" gives an excellent opportunity for reviewing the work of the year. In the work which I am about to outline, I have endeavored to combine the usual laboratory method with the project method and have used the annual exhibit to develop the review.

*The First Semester's Work*

During the first semester, I have done very little work involving the project method, outside of making collections of various materials commonly used such as soap, lye, baking powder, salt, washing soda, etc.; and the study of the behavior of these substances in our homes. I have centered the work about the essentials, air, water, salt, and substances related to these. However, if a student asked a question which I thought he could have solved for himself, I put him to work on it. For instance, much may be done towards answering such questions as, "How does heat affect metals such as lead, copper, iron, and mercury?;" "Does glass melt?;" "Why does Ivory Soap float?;" and "Does hydrogen come from the acid, water, or metal when prepared by the interaction of a metal and dilute acid?" Other problems similar to the last of these arise with almost every experiment. There is almost always some point in the experiment that is told to the student instead of being verified. These points offer an opportunity for introduction to a project. The separation of the so-called solvent of liquid shoe blackening is an interesting sidelight on distillation. The action of litharge on hydrochloric acid forms an interesting problem on the preparation of chlorine by oxidizing agents. Frequently the introduction of a project that gives negative results is valuable in keeping the class in a truly observant state. The heating of sand to secure oxygen is a case in point. Of course, the study and preparation of common materials is one that is available to the project method as well as to others.

*The Second Semester's Work*

During the second semester, I centered the work on the chemical industries. An increasing number of projects similar to those already mentioned were given. Collections of products and raw materials give the class an excellent opportunity to become familiar with the world's work. The testing of foodstuffs, as milk, meat, and flour are exceedingly practical projects for girls. In the preparations for our exhibit, the project method predominated.

*Purpose of the Exhibit*

It may be well at this point to give the purposes of the "Chemistry Exhibit." The objects of our demonstrations were three; first, to acquaint prospective students, parents, and others interested in our school with the work of the Chemistry Department; second, to add interest to the work, that is, to motivate the course; and third, to give the class a review of the more important principles of the year's work. I feel that in all three purposes our exhibit was a success. The laboratory was packed with students, parents, teachers, members of the board of education, in fact with everyone at all interested in our school. Several students and teachers from a neighboring high school visited us and were very enthusiastic in their praises. The local newspaper published a column written by the editor. The class was certainly called upon to review their Chemistry because every student of high school age dreads showing his ignorance in public. I feel

that for the same reason students became more interested in their work. I made a special effort to select topics which would form interesting projects.

*List of Projects*

The list of possible projects for an exhibit of this kind is not at all limited, but I had centered my work upon the essentials, air, water, salt, and substances related to these for the first semester's work; and upon the industries for the second semester. I therefore selected projects that were related to these subjects. Some of these projects were:

1. What materials are present in our drinking water?
2. How can the liquid be separated from the solid in liquid shoe blackening?
3. How may salt crystals be prepared?
4. How may a match be made?
5. What is formed when coal is heated in the absence of air?
6. How can cloth be dyed?
7. What relationships exist between the important chemical industries?
8. What does glass do when heated, blown, and annealed?

This is not a complete list of the topics treated but will suffice to give you an idea of what our exhibit was like.

*Method not Subject Matter*

Although the titles I have used are those found in some laboratory manuals, I wish to call your attention to the fact that the method of procedure was different. Because we are using a different method of instruction, it is not necessary to teach an entirely different subject. The procedure was not to follow directions in a book, but the student was constantly motivated by a desire to solve a problem so as to get information to be given to the public at the time of the exhibit, and usually this was a problem which the student himself was interested in.

*Procedure in the Project*

One of the most important of these projects was that which dealt with the relationships between the industries because it was really an outline of the semester's work. While this project is different in many respects from other projects, the method used is about the same. The principal difference is that the student already knows much of the necessary information but is here called upon to coordinate that knowledge. Of course, in order to do that, he must proceed just as he would to solve any other problem. The results of this particular problem were exhibited in the form of charts. Perhaps a better idea of this project may be had if we review the method from the teaching standpoint. I had been constantly emphasizing the importance of such industries as coal, iron, petroleum, cement, glass, fertilizer, soap, dye, and explosives. When the time, which I thought psychological arrived, I asked the class to tell me the relationships they remembered. Many interesting facts were given, but the arrangement was not complete. A few became interested; so I put the class to work gathering information. The students most interested made charts showing the uses of common materials in the industrial world. The student that did the best work was put in charge of these charts at the exhibit. The information was secured from pamphlets, magazines, books, and visits to local foundry and canning factory. Of course where it is possible, the best way to secure information of this sort is to make inspection trips to the factories.

*Conclusions*

The conclusions to which I have come may be of interest to you. I found that there was no revolutionary effect upon my students; they did not change

into highly skilled scientists as a result of this work; nor were some of them especially well informed on chemical subjects. My class remained boys and girls with very much the same desires. Yet I feel that the work was worth while, that they knew more Chemistry at the end of the year and would remember it longer than if they had not taken part in the project work in preparing for our demonstrations. I also conclude that there are times when our methods may vary. There are times when the best method is to tell the student what you want him to know; at other times it is better to add a demonstration, or supervise his study, or have him recite on a lesson assigned. But there are also times when it is necessary to review the work, and times when it is advisable to promote the attitude of research. In Chemistry teaching, the field of the project is to accomplish this review by coordinating the work done, and to promote this attitude by arousing the student's attention to the laws of cause and effect. For these purposes no method is better than the project, especially if given the added socializing feature of collecting information to be presented to the public. Laboratory work thus carried out will prove of value to the pupils; the community is bound to realize that the student and teacher are doing work that is worth while even if no examinations are given or passed. If our teachers can present the case in our university and college circles, it will not be long before they will realize that such methods of teaching are practical and efficient; that such teachers are educators, not simply task masters and parrot trainers.

## 17. THE SOCIAL SCIENCE SECTION

### 1. Minutes

The Social Science Section was called to order at 9 o'clock, November 18 in Trinity Church, Principal M. L. Flaningam of Urbana, presiding.

Before beginning the program of the morning the Chairman made some necessary announcements concerning registration of members, validation of railroad tickets and reception for all visiting teachers at the University High School.

Principal O. L. Bockstahler of Palestine opened the program, speaking on the subject "Shall We Return to a Year's Course in General European History?"

The speaker stated that there were two opposing schools of curriculum building; the one represented by the college professor who failed to use the principles of modern thot but stressed the older; the other was typified by the modern school and students who emphasize the more recent in history. The Great War, economic problems and present day industrial conditions causing many students to leave school early were factors in drawing the opposing sides together.

Since the average high school graduate has only one and one-half year's credit in history it seemed not unwise to suggest a return to a general course which would take the place of the courses in Ancient History and Mediaeval and Modern History now so commonly found in high schools.

A questionnaire addressed to many schools brot forth uniformly enthusiastic responses from those in which the change had been made.

The one year course was economical in the small school where there was a limited faculty; it was popular with the students; the University of Illinois accredited the course; and it met the present day demands.

The discussion of Mr. Bockstahler's paper was led by Miss Anderson of Elmwood, who opposed the substitution of the general course for the two year's course. The speaker believed that one year was not enough time to get historical facts so fixed in the minds of the students that it would be of value to them.

Miss Miller of Potomac followed Miss Anderson, speaking from the point of view of the teacher in the small high school. Miss Miller favored the change since it would prove to be an economical one in the small school, probably eliminating two classes in history and releasing teachers for other necessary work. The course should be given in the second year.

In the general discussion which followed Mr. Harper of Morrison spoke against "telescoping courses in history."

Miss Gaynor of Champaign asked for a statement of the subject under discussion. The Chairman replied that the subject should be considered as stated on the program and that it was a challenge to the right of Ancient History to a place in the curriculum.

Mr. Bush of Joliet spoke in favor of the proposed change, giving as his chief reason the need of making room for courses in Economics and Sociology.

Other members who discussed the question were: Mr. Hubbart of Decatur who approved of the general course because of the benefit many students leaving school early would receive; the Principal of the Pana High School, who spoke in favor of retaining both the two years' and the one year course; and Mrs. Hanson of Hyde Park who also agreed that it was better to have both a short and a longer course for those students who wished it.

A vote taken on the question under discussion showed 69 members in favor of the proposed change, while 67 opposed the measure.

The second paper on the program, "Teaching the History of the World War," was presented by Miss Goodman of Champaign.

Miss Goodman spoke of the general desire to understand world-wide problems, the teaching of which is seriously handicapped by the lack of suitable text-books, tho the efforts of the authors were appreciated.

The speaker very ably reviewed the following books, showing the proportional amount of space devoted to the causes and preparation for the war, the military events and the problems arising after the signing of the armistice.

History of Europe, Our Own Times — Robinson and Beard.

Modern Times and the Living Past — Elson.

Modern Progress — West.

Miss Goodman emphasized the opportunity the history teacher now had to show the part America has played and with her high ideals will continue to play in world affairs.

Miss McKenzie of Centralia opened the discussion of the paper. The speaker was not in favor of over emphasizing the battles in the World War. Since the present tendency is to teach little of the details of military events Miss McKenzie believed that this war should take its place with the other events of the past.

Miss Martens of Aurora followed with a paper on the subject, "Laboratory Work in History."

The speaker stated that she considered the laboratory method was "learning by doing" and that she believed in activity on the part of the investigator. Miss Martens gave some concrete examples of projects used in different schools and especially in Aurora.

### Afternoon Meeting

The afternoon session opened at 2 o'clock with Mr. Tillema of the Political Science Department of the University presiding.

Mr. R. B. Tozier of Champaign opened the program, speaking on the subject, "A Definition of Civics, Including a Course of Study for Secondary Schools and in Accordance Therewith Proposed by a Committee of the American Political Science Association."

Mr. Tozier spoke of the first Civic Courses which included only the fundamental principles of government while today Civics covers the wide field of social studies. Thence, there is a lack of thoroughness in the presentation of the subject.

The speaker read from the report of the Committee of the American Political Science Association to show some recent tendencies in the teaching of Civics such as: dispensing with the text-book and using projects, field work, etc., tho there are only a very few teachers who can conduct such classes successfully; giving preference to text books by authors paying special attention to local political affairs; dropping-out courses in principles of government and substituting courses in so-called democracy, social studies, etc.

Mr. Tozier read the outline arranged by the Committee of the American Political Science Association.

The discussion of Mr. Tozier's paper was led by Mr. Miller of Elgin, who spoke in approval of the outline. The speaker said that Civics should help students become social—and civic factors in the

community. Americanization should be stressed in communities where there are many foreigners, and the fundamentals of government emphasized in other localities.

The Chairman, Mr. Tillema, disapproved of the outline because it covered too wide a field for consideration in high school classes.

The next speaker on the program was Miss Sanderson of Danville who discussed "Practical Methods of Teaching Current History."

Miss Sanderson believed that the first day of the school year was the opportune time to begin the teaching of Current History with a discussion of newspapers and magazines as examples of source material. Concrete examples of questions were given to show the selective process involved in getting at the truth.

The speaker did not approve of a special day set aside each week for recitations in Current History, but thot it better to hold the students responsible for short discussions of important events at any time. The class studied by an outline given by the teacher. No particular newspapers or magazines were used by the class.

Miss Ullrick of New Trier Township High School opened the discussion of the subject.

The speaker was in favor of establishing a distinct course in Current History. From her experience as teacher of such a course, Miss Ullrick discussed the practical use of such magazines as The Literary Digest, The Independent, The Outlook and The Review of Reviews. The results of systematic study of these magazines are: greater interest in the questions of the day by the students themselves; the pleasure shown by parents in the ability of their children to discuss questions of the day intelligently; and the introduction of good reading material into the home. Such a course conducted in a spirit of non-partisanship would tend to make good voters and better citizens.

After a brief general discussion of the topic the meeting adjourned.

Iva Margaret Still.

### 2. Papers

## Shall We Return to a General Course in European History

### By O. L. Bockstahler, Palestine

As a basis for this discussion the following questionnaire was sent out:

Questionnaire

The University of Illinois has asked me to investigate the feasibility of a course in General European History similar to that of Prof. P. V. N. Meyers a few years ago. The demand has come to allow credit for such a course, but before it is done they wish to know exactly what demand there is for such a course, its contents, and the relation it bears to the rest of the curriculum. The results of

this study will be given at the High School Conference at Urbana next month. Since it vitally concerns your work will you kindly assist me in presenting your cause by answering the following questions and returning them promptly. Any other information you can give will be received with due credit.

1. Why did you adopt a general course in European History?.....
   .....
2. Do you offer it in the continuation school?.....
   night school?.....or usual high school?.....
3. Do you also offer a years course in Ancient History?.....
   Modern? . . .....American?.....
4. Do any of the students taking this general course take either of the courses mentioned in question 3?.....
   If so, how many?.....Which course?.....
   Before or after the general course?.....
5. Are most of the students taking the general course vocational students?.....
6. In what year do you offer the general course?.....
7. Why did you choose the text you are using?.....
8. Do you use a note book?.....What edition?.....
9. Remarks: . . .....

Return to O. L. Bockstahler,
Palestine, Illinois.

Report on the Questionnaire

This report may be divided into four parts.

1. Conditions demanding a reorganization of history course
2. The situation in Illinois
3. Reports from questionnaires
4. Summary.

Prof. H. O. Rugg of Lincoln School of Teachers College in the May number of the Historical Outlook says that there are two schools of thinking developing with respect to the reorganization and teaching of the Social Studies. 1st. The College Professors who have for thirty years controlled the reorganization of our Courses. This has been done through the Committees appointed by the American Historical Society, American Sociological Association, and other similar bodies. The emphasis has been placed on the historical material and we have failed to acquaint children with the development of current institutions and problems, which should be the object of Public School instruction.

The second school of thinking consists of students of the curriculum and progressive school people, administrators and teachers who want to eliminate non essentials, political details and analytical treatment of the Ancient times and completely reorganize and reconstruct the material in our courses.

Many people thought that when the American Historical Association Committee of seven recommended essentially the same program as the N. E. A. Committee of ten that our troubles were at an end. Henceforth Ancient History to 800 would be taught in the ninth year, M. & M. in the tenth, English History in the eleventh and American History in the twelfth. But our social sciences are not dead enough to be placed in plaster of paris casts. Numerous factors have been growing and working since 1893 and 1899 which show that at least the history teachers are very much alive. By no means the least of these factors seeking to stress the more modern movement and institutions was the great war. Another factor is the increased activity on the part of educators to make that strange leaven

called education more plastic and fit it into the needs of the individual, community, state and nation.

Industrial conditions also come in for their share of the blame. Either large wages or unemployment cause many thousands of boys and girls to leave school early. These above all others perhaps need to know the development of democratic ideals and the meaning of democracy and their part in it. Therefore the N. E. A. Committee has reported favorably to introduce into the earlier years of the secondary schools those subjects of immediate importance.

These and other factors have brought these two schools of thinking closer together. Today we find the greatest divergence in the objectives to be obtained from history teaching as well as confusion regarding the material taught and methods used. The situation is becoming chaotic. The Colleges are thrusting more and more material into the high school and the high school into the grades. This, added to the ever widening scope of the high school to meet the demands of the present day in vocational work is almost forcing the free elective system upon the secondary schools. Whether this is good or bad does not enter in here. It does, however, bear on the problem in hand because it is rapidly becoming more and more difficult for the average high school student to obtain a so-called general education.

The situation is not hopeless, merely transitory. Out of all this confusion, courses will arise based on those principles which recognize the true value of history and its relation to life and the rest of the Educational World. There will be opposition and I have no doubt but that I will be taken to task as soon as this discussion is ended. But when Dr. Larson asked me to make this investigation I was no more in favor of the general course than some of you are. However the following conditions now exist:

1. Many States (notably California and Minnesota), and National Committees are recommending the following arrangement:

9th year, Community Civics.
10th year, European History.
11th year, American History.
12th year, General Social Science, of Civics, Economics and Sociology.

Thus only two years are devoted to history, one of which deals with American History. The average high school graduate in Illinois has credit for only one and a half years of history. American History is required by nearly every school. Since both State and University authorities presuppose that Ancient History precedes M. & M. it is the only European History studied. Admittedly it does not form a good basis for American History, neither has this student any conception of Greek and Roman civilization. By combining the two in one year a good conception of Greece and Rome is obtained as well as a sound and thoroughly grounded conception of the growth of the principles of democracy.

2. It is a well known fact that many pupils leave school before the fourth year of High School. The U. S. Bureau of Education reports that 67% of all the pupils who enter school drop out at the end of the sixth grade. In Minneapolis it ran as high as 88%. 75% of all the children in the U. S. over fourteen years of age are not in school. (Report of N. E. A. Com., 1919.) The first reason given is that of too limited a range of instruction. If these pupils get any history it certainly is better that they have Modern or American than Ancient, but the former is not available to them at that time as the course is now arranged. Admittedly a general course is better for them and the community in which they reside.

3. Commercial, Technical and Vocational High Schools are eagerly adopting this course. Omaha, San Francisco and many others have already done so. Dean Marshall of University of Chicago recently pointed out before

the National Associations of Collegiate Business Schools that most of our organizers of business are self-appointed. Most of their education was obtained in secondary and elementary schools. In other words the future course of study of the secondary schools must be for many completion schools. Therefore the N. E. A. Committee recommended that subjects of immediate importance be introduced earlier into the secondary and elementary school work. (U. S. Bulletin No. 25.) Students in these schools do not have time, neither is it practical for them to first take Ancient History, then M. & M., followed by American. Illinois is only doing what other states have been doing for some time.

4. In night schools or continuation schools where students are taking advantage of the opportunity to get a more complete general education or better prepare themselves for their work this general course is the only feasible one.

5. There are in Illinois many small community and township High Schools which have such a heavy schedule and such a small teaching force that they cannot offer three years of history. Hence they are offering this General Course and a half or whole year of American.

6. Such a general course gives a logical unity and natural sequence to the whole subject matter of history. Mr. H. F. Taggart, Union High School, Santa Maria, Calif., in the Historical Outlook for Nov., 1921, describes this course as follows: "Since History is an Evolutionary story of life development and the roots of the present lie so deep in the past, this course aims to help the student see some of those Evolutionary changes that have led up to the present institutions." As I understand it, this Evolutionary idea is uppermost in the mind of H. G. Wells, the English historian, in his latest work, "The Outlines of History."

There is deep seated prejudice against such a course both in the universities and among teachers. But it is here to stay. I sent questionnaires to all the schools in Illinois, and a number outside of the state, that offer such a course. All were enthusiastic about it and in no case was there any indication of returning to the two year system of European History. Since the curriculum already is overcrowded these schools argue it is one way of relieving the tension. As nearly as could be determined, about twenty-five schools adopted this course during the past two years. Twenty-two responded. From them these facts were obtained. About two hundred schools have adopted "Elsons Modern Times and the Living Past" the present year. "West's Modern Progress" is used in more than three hundred schools in the middle west.

In answer to the question, "Why did you adopt such a general course in European History," LaSalle-Peru Township High School says, "For reasons of economy and because most students never get beyond Ancient History, and so never acquire a background for American History in the fourth year. We use loose leaf maps and in the second semester we have current topics." Rock Island reports that they have not adopted but are very favorably inclined towards it. Reddick Community High School says, "Because of a small faculty we cannot teach a very elastic curriculum. Elsons gives all the Ancient History necessary and we shall not teach an extra year of it after the present year."

Principal L. W. Chatham of Pana Township High School reports that forty students asked to take modern history at the opening of school, but when told they must first take ancient, only ten registered. He then offered a general course and fifty-two enrolled. This course is proving so successful that if credit can be obtained for it, it will displace the older ancient and modern courses.

The principal of the University High School, Iowa City, Iowa, reports that they accepted the N. E. A. Committees 6-6 plan and also did it to meet the great need for understanding present day tendencies. They teach ancient history in the seventh and eighth grades.

The principal of Wood River thinks three or four units out of sixteen is too many in such a subject.

Oak Park reports that they have too many students who cannot afford to spend a year on ancient and another in modern and since American History is required, the general course meets the demand very well, which agrees with the Grand Rapids report.

All these schools require American History for graduation. Eight do not offer ancient history, and a number expect to discard it. Nine do not offer M. & M. history. Two offer the general course in the ninth year, seven in the tenth year, and four in the eleventh. Those offering it in the ninth year admit that it is too heavy for Freshmen. Five use a note book, but there is no uniformity of note books.

Summing up: This investigation has led me to the following conclusions:

1. That the general course recommends itself especially to the kinds of school mentioned above, namely, commercial, vocational, continuation and part time schools, night schools and schools with small teaching forces.
2. That the general course is preferable to either the ancient alone or modern alone, because it presents a more logical and evolutionary description of the growth of democracy.
3. That it is peculiarly adapted to schools situated in communities where for various reasons many students drop out before graduation from high school.
4. That where it is taught students should not be given credit in both the general course and either ancient or modern.
5. That universities should allow credit for it when taught in the tenth and eleventh years with some note book work, and current topics the last semester.

## Discussion of the Report by Miss Bertha Miller, Potomac

The question of economy of time in the small high school is a vital one. To give the subjects that will allow our pupils to enter the colleges over the state, teachers are overloaded with work. In schools with four or five teachers, twenty-three or four subjects are sometimes taught, with extra classes necessitated by dividing large entering classes into sections. The work cannot be as well done as if teachers had fewer classes. Giving general history would free us of Ancient, Medieval and Modern, and English history.

The objection may be brought that general history properly taught will mean as much preparation on the part of the teacher as two other classes, because the text-books must of necessity be brief.

Our pupils should be benefited by the change, for if the course is required, all the pupils will have some knowledge of history, whereas at present many do not take enough elective history to give them a basis for understanding modern times. All pupils would also have a historical basis for English literature, foreign languages, and economics. They would also have a little addition to the sum total of their general knowledge that goes to help make up their general culture.

Adequate text books are available. The following books were well written, had good maps and pictures, and emphasized those parts of history that had a bearing on modern times:

"The General History of Europe," by Robinson, Breasted, and Smith.

"Modern Progress," by West.

"Modern Times and the Living Past," by Elson.

## Teaching the European War in the High School

Byne F. Goodman, Champaign

Since the World War has influenced history teaching in all grades from primary schools to the universities, and has led to a greater interest among all persons in historical roots of the present, the work before the schools in making history explain the present, in making it furnish guidance for the future, and incidentally at least implant the cardinal virtues, is being recognized as a practical and patriotic duty. There is a genuine and sincere desire among American citizens to understand the real significance of the new world-wide movements. Naturally it is to the schools and colleges throughout the country that they look for information, interpretation and guidance.

In trying to meet this demand made upon us, we all realize that the inevitable handicap of not having text books keep up with the march of events is now a real difficulty. Even tho our books cannot keep up and even tho we cannot hope to see present day happenings in their true perspective, nevertheless we must study and teach them. Fortunately the authors of text books have come to our rescue as best they can, and have made an effort to have at least the main issues and events of the war placed in the schools as rapidly as possible. No doubt many of you are familiar with the books which are available at present. It is true some of them were written before the problems which grew out of the war became clearly visible; in such books we find the story of the war in the form of a supplement, or additional chapters in a revised edition of the text. There are three books, however, which have been published in 1920 and 1921. Since many of you may not have had an opportunity to see all of these, I have brought copies of them, which Prof. Larson has been kind enough to loan me.

While it is the way in which the books deal with the war that interests us primarily, still there is another feature to consider; and that is the field of history covered by each. Those schools which desire a text covering only the past two centuries for the second year of history will be especially interested in Robinson and Beard's "History of Europe, Our Own Times," published this year. Those desiring all of European history covered by one volume will be glad to know of Elson's "Modern Times and the Living Past," also published in 1921. Then West's "Modern Progress" covers European history from the Roman Empire down to 1920. For the schools which are using West's "Modern World," Allyn and Bacon have published a supplement, "The War and the New Age," which corresponds to the last chapters of the "Modern Progress."

The Elson text devotes about 80 pp. and the other two about 100 pp. to the study of the war, including the immediate background which is necessary to explain it. Of the 80 pp. in Elson, five cover the background; about twenty-five the strictly military history; and the remainder the interpretation, modern methods of warfare, political history, and events of the past three years. Over one fourth of the whole section deals with the period since the armistice. The Robinson and Beard text devotes 25 pp. to historical background; another 25 to military history; and the remaining 50 pp. to interpretation, political history, etc., with about the same amount of space to recent events as Elson. Prof. West gives over about 13 pp. to introduction; about 35 pp. to military events; and one-half of the remainder to conditions since 1918.

Naturally if we could combine the best of all of these; e. g., West's chapter on "Healing Forces;" some of the maps of Elson with Robinson and Beard, and their questions and suggestions for study at the close of each chapter, we should have an even more excellent account than in any one of them alone. While on the subject of maps, I want to say how pleased I was to see such excellent ones showing the racial boundaries as well as the political. It is true that the general geography must be given attention; and physical land and water features are

important in military campaigns; while districts hitherto unnoticed by even well-informed persons have suddenly leaped into a position of world-wide importance. As one writer on the war has stated, "German armies have occupied great districts whose very names previously were hidden within the large bulk of the Russian state." Nevertheless, important as are all of the geographical, military and political aspects of the war, none it seems to me are so difficult to comprehend without the aid of maps, as the racial, unless it is the economic, and none are more illuminating in understanding the events which occurred. Maps of this character are not found in West's histories, altho in the study of the Revolutions of 1848 he does include a racial map of Austria-Hungary; and of course that is where we find about the greatest complications. There is, however, one phase of the war which receives little attention in any of the books, certainly none in the maps, and that is the economic. I have already referred to its importance in regard to securing a greater understanding of the events as they occurred; perhaps it might be well to enlarge upon that somewhat by stating that because the economic background had so much influence upon the policies of imperialists and annexationists, it would seem that a map showing the distribution of the important economic products would go far toward making those policies intelligible. Surely a little attention given to the coal, iron, oil and wheat regions gives one a remarkable insight into some of the compromises of the Peace Treaty. As Prof. Lingelbach of the University of Pennsylvania has so well said: "There are still those who, like Langlois and Seignobos, think it difficult to find that a professor of history or a historian is much the better for a knowledge of geology, oceanography and climatology" yet "military history cannot be treated without constant reference to topography; nor can political and international relations in these days without an understanding of the raw materials and resources of the earth."

Referring again to the texts under consideration. It seems to me from the survey which I have made that Robinson and Beard shows a real effort to give as thorough an interpretation of all phases of the war as the brief space permits. It includes a very good statement concerning the animosities which existed at the beginning of the war; emphasizing Germany's jealousy of England's navy, and dissatisfaction with the "Congress of Berlin;" and making the statement that if Russia had interfered in the first Balkan War to support Servia, the World War might have broken out at the end of 1912 instead of in 1914. In discussing the responsibility for the war Robinson and Beard quote Lichnowsky to show that even a prominent German at that time blamed Germany more than any other country. Certainly no stronger indictment could be prepared against an enemy country that this German hurled against his own. In the course of the development of the war, the plans of the various governments are outlined, and statements made concerning their success or failure. The new problems arising from the war are brought out; also President Wilson's efforts first to preserve peace and later to define the issues clearly. The terms of the armistice are summarized, and the provisions of the Peace Treaty. Then in conclusion about 22 pp. are devoted to a discussion of the financial and economic ruin wrought by the war; the establishment of various republics including the German; the question of the indemnity; and finally the first meeting of the League of Nations, in Geneva, November, 1920, with the stormy withdrawal of Argentina. On the whole a very satisfactory account.

Pres. Elson's account also appears in many respects well-balanced and well-written. One of the best features is the pronunciation in the body of the text of many difficult foreign names; in the case of some of those Polish and Czech names this is an advantage. Another feature of the work is the way various miscalculations on the part of the Germans which proved fatal are worked out. This text also places considerable emphasis upon America's usefulness in fighting the submarines; stating that this was one of our greatest contributions to the victory of the Allies. There is too the rather remarkable statement that the struggle of the Americans in the Argonne is the greatest battle in our history, and far eclipses Gettysburg. In relating the history since the armistice, Pres.

Elson discusses first the peace treaties, bringing out particularly the influence of President Wilson and American ideals; then the conditions in European countries and in the Near East since the war; and concludes with a strong appeal for the League of Nations.

In Prof. West's account we find a very good discussion of the Balkan situation before the war; much about German propaganda, including a number of quotations from German militarists; the Potsdam conferences; and a strictly chronological survey of military events. This is followed by the story of the collapse of Germany which he says was largely due to the failures in Eastern Europe and in the Near East; a chapter on "War Efficiency of a Democracy;" one on "The World League and New Europe;" and in conclusion one on "Healing Forces." Some of the interesting features are the explanation of Roumania's entrance; German propaganda in Italy; and the failure of submarine warfare to end the war.

Among the best portions of the book are the explanation of the necessity of the Dardanelles campaign and the cause of its failure; the way in which French morale was saved by the tremendous energy of Clemenceau and the coming of the Americans; the account of what war-saving at home allowed us to send to Europe; and finally some of the lessons which all countries learned from the war in the way of human conservation, vocational education, and improvements in industrial conditions, including shorter hours and better wages for labor. In his conclusion, Prof. West calls upon High School students not to spend their time regretting that they could not have had a part in the war, but to remember that the hardest struggle may lie in completing the work for which their older brothers died—to strive in peace for freedom and human brotherhood.

Those of us who have admired Prof. West's scholarship in the past find much to commend in this new book; but we cannot help also being disappointed. Not only is the undercurrent of criticism of President Wilson somewhat undignified, but the author goes beyond being unfair and becomes inaccurate when he makes the following statements—"Mr. Wilson proved utterly unable to cope with the European diplomats. He had believed with supreme satisfaction that he could bring them to his terms; in fact he proved a plaything in their hands. Not a vestige of the Fourteen Points survives in the treaty—neither their details nor their spirit. And yet unwilling to confess defeat, Mr. Wilson claimed to be satisfied." Then after a discussion of the opposition to the finished treaty we have these statements: "Progressive men the world over, believe that the treaty is dishonorable to the allies....and bad for the world at large. It must breed wars. It breaks faith not alone with the beaten foe but also with the hundreds of thousands of splendid youth who gave their lives, in torment and suffering, to win the 'war for democracy,' 'a war that should end war' and secure 'peace and safety for all nations'."

There is no doubt in the minds of Americans how important was our assistance in bringing about the end of the war. Europeans, however, except perhaps those living in Germany and some portions of eastern France, may be inclined to minimize it, and to emphasize whatever reflects the glory of their own nation; in the meantime probably believing that since the United States did not feel the burden of the war the first two years, when Europe was suffering so grievously, they should now generously cancel any obligations of their allies. Nothing but time will show the part we took in its true perspective; and in the meanwhile, as an English friend of mine, and a great admirer of America, recently said: we may rest secure in the realization of our national superiority. Perhaps it would be just as well, however, if we do not always rest too secure.

We do not know how long Germany will continue to teach in her schools that her many attempts in 1914 to preserve the peace were ignored by her enemies, and that France had already begun to attack Alsace-Lorraine before Germany declared war upon her. Let me quote from a history used at present in some of the public schools in Germany. The Fatherland "took a most sympathetic interest in all efforts directed towards the maintenance of peace. In vain. While the

German government was still mediating, Russia mobilized its entire war strength. This deed....made war inevitable.'' And again, ''The German government asked the French government if in case of a German-Russian war would it keep aloof. France gave an evasive answer, and without a declaration of war broke into Alsace-Lorraine with an army, with cavalry, patrol and with bomb-throwing airplanes.''

If we try to be optimistic in regard to the future, we may find that although the cloud of war does not have a silver lining, there have nevertheless been some gains. Certainly the testing of republics in war time showed that they were not found wanting. So new governments of this type have been established; and we have taken an increased interest in our own. Undoubtedly the boys and girls of today have a greater feeling of civic and national, even international, responsibility than ever before. This gives the history teacher a marvellous opportunity. Other countries too are teaching more and more the mysteries of republican government. Even in Germany in spite of much anti-democratic sentiment, instruction has had to be slightly altered to meet the new political situation since the revolution of 1918.

To supplement the material in your textbook you may appreciate having a bibliography, which has been approved by Prof. Larson, and which contains a few books suitable for use by High School students that make a valuable addition to a school library. They have been selected with a desire to include some of the best known books on the war, and also to give plenty of outlines and suggestions for further study for the more mature and more inquiring minds among the students.

And now in conclusion, I want to emphasize again the great opportunity that we have constantly to show the part that America has taken and can continue to take in struggles for the betterment of humanity, and the preservation of peace and liberty. The world recognizes this and expects it of us. Only a short time ago—Marshall Foch said so fittingly: ''America can go on helping as she has always helped—just by having ideals and living up to them.''

## Discussion of Miss Goodman's Paper by Marion McKenzie, Centralia

Some years ago when we sat in front of a teacher's desk rather than behind it, we proved ourselves to be the fore runners of Polyanna by being thankful that we were living no further removed from the beginnings of history. Our self-congratulations were a bit premature, however, for today we find ourselves confronted with the problem of teaching the history we so happily thought we were avoiding. The World War has brought up again the much discussed problem regarding the place that contemporary events should hold in our history teaching. An event which absorbed the interests of the civilized world for almost five years and which is responsible for nearly all the problems and conditions of the present would seem to present no problem. The work of the teacher should be as a matter of course a careful and detailed teaching of the history of the World War. In fact some people advocate making the World War the central fact in history and teaching the past in relation to it.

The mistake can easily be made of placing too much emphasis upon this particular event of history. The problem then is—what place in our teaching program should be occupied by the history of the World War?

The Committee on Curriculum Reconstruction has placed in your hands their report regarding the objectives of education. As their work is the result of almost two years of investigation surely we can approach our problem in no better way than by considering the part that the history of the World War would have in attaining these objectives.

Among the number of objectives submitted the ones which belong especially to the social sciences are found in the Association group.

First: Knowledge which will enable one to see mankind from the earliest origins to the present time in a wide and true historical perspective.

Second: Appreciation on the part of an employer of his rights in relation to his employees, and the general public.

Third: Appreciation on the part of employees of their rights in relation to capital, labor, and the general public.

Fourth: Knowledge of the interdependence of social groups and the habit of cooperating within one's own group and with other dependent groups.

Fifth: Knowledge which will enable one to refer events, personages, social movements, and the like met with in one's usual reading or conversation to their proper geographical and historical setting.

If the attainment of these and similar ends is the aim of our history teaching, the World War takes its rightful place as the most recent chapter in the stirring tale of mankind, a chapter which leaves the story at a high point of interest and makes one long to turn the pages and see how it will all end. But because it is of most interest at present, it does not necessarily follow that it should be studied to the disregard of earlier but equally important events.

The last few years we have criticized, and justly, the histories of thirty or forty years ago because of their delight in facts for their own sakes, their regard of history as a purely cultural subject and the emphasis placed upon wars, campaigns, and battles. Let us not in our enthusiasm for the present lose the perspective which gives the World War its relative position in history. Our history text books have shortened considerably the time and material formerly given to wars. Why should we make an exception of the world war? Why should the student have a more detailed and minute knowledge of the campaigns of this war than he has of those of the Revolutionary or Civil Wars?

It is not meant that the World War should be entirely disregarded. We do not want a student of history to say of Belleau Wood as one did recently in reply to a question concerning the importance of Tentoberg forest—that it was renowned for the amount and quality of lumber obtained from it. The outstanding events and names of the war which the average individual finds in his usual reading or conversation can be given in a few days summary.

When the student of today leaves school, he is confronted by social, political, and economic problems whose solutions do not depend on minute information regarding either Washingtons or Joffre's campaigns. Rather their solution depends upon his appreciation of the interdependence of the world of today in contrast with that of the past, upon his knowledge of the rivalries and ambitions of nations from early times, and a realization of the large part these have played in the last twenty years. In his study, the world war should be the natural outcome of the commercial, political, and social activities of the last half century not a stupenduous, unexpected catastrophe isolated for special study. He should study and compare the problems of the past with those of the present. The efforts of the past to solve their problems should bring him with an intelligent understanding to the solution of those of his own time and generation.

We hear quite frequently of the great opportunities the world war affords for the teaching of patriotism. But will the dramatic exploits of the Americans at Chateau Thierry and the Argonne engender real patriotism? Will these accounts send the student into the world to stand and work for clean politics, progressive civic enterprizes, and the like? Are they not more likely to make out of him the so called patriot who stands at attention during the national anthem or salutes the passing flag and then disregards the speed laws or brags of his skill in the manufacture of home brew? There is a real danger of a history teaching which generates a false patriotism and to that extent retards progress. President M. Carey Thomas of Bryn Mawr College had this danger in mind when

she made the following statement in a recent address at Mount Holyoke College. "The federal and State governments, Boards of Education, Americanization societies, American Legion and organization of every kind are demanding that children and college students should be taught patriotism, concrete citizenship and 100% Americanism. This means that school teachers and college professors, as yet only in public schools and State universities but unless the movement is determinedly opposed sooner or later everywhere, are being required to teach not how to make things as they should be, but that things as they are are right; that the United States Constitution as written 134 years ago is perfect; that our highly unsatisfactory government must not be criticized; that the United States flag, which, as we all know, flies over many cruel injustices which we hope to set right, must be reverenced as a sacred symbol of unchanging social order, of political death in life."

True patriotism like true friendship recognizes faults but is loyal in spite of them. Stephen Decatur has put it still more concretely although he is sometimes misunderstood.

"Our Country; in her intercourse with foreign nations may she always be in the right, but our country, right or wrong!"

The Armistice Day parade showed a variety of banners and placards. The sentiment of many of them was, "Labor wants no more war," and nearly all mankind echoes the statement. A knowledge, no matter how detailed, of this war, however, does not offer one plan for the prevention of another. This is not the first time that people or governments have demanded an end of wars. It is true that conditions in the past were different but the people asked for the same things and tried plans which did not work. Our study should be why those plans did not work and how a plan more likely to succeed may be devised.

The World War should take its place in our teaching program with the other events of the past and the student should leave our classes with a knowledge of present problems interpretated by the events of the past. We should send him out with a background of real historical knowledge and perspective which will enable him to serve his country as a true patriot and a worth while citizen.

## Laboratory Work in History

**Eva E. Martens, Aurora**

In the schools in Aurora we have a series of cards called "drop cards" which are filled out and returned to the superintendent's office when any student leaves permanently. Among the items to be found on those cards are the causes for leaving school,—necessity, illness, preference for work, etc. Whenever the "preference for work" column is checked the question arises in my mind—is it because the boy wants to get out where he can do something that counts? Does he feel that he is really living when he chooses to work? If so, to him the school must be a place of restraint, a corner of the world where things do not move, a something set apart from real life.

In "Shackled Youth," Mr. Yeomans describes the joy of the boy in a school where there were *real* things to learn, taught in a fascinating way by a teacher who was born and not made. "It was a school and not a factory." Her methods were not according to Hoyle but one could imagine her students coming to her daily with the same eagerness and interest. Do our schools and our classes draw students in that way?

Education has been and still is regarded by many as a "preparation for later living." The emphasis placed upon preparation seems to breathe of facts and formality in the school-room, a process, deadening in character, having the effect of making the student passively accept the predigested food offered him

by the textbook and the teacher. When education is looked upon *as life itself*, purpose and meaning are present, rousing the student to the interest, that results in activity. *Then* there is no formidable bridge between the school and the outside world because education is a continuous process. *Then* there are problems to solve in the school-room that challenge his powers. There are problems to solve in the outside world but *this* student has the problem-solving habit then and he tackles them without dismay. Are there not schools and classes where the student spends time but no effort; where the calm of passively accepting uninteresting facts is unbroken?

Educational writers have discovered that existing methods needed the pulmotor, so now we are talking about vitalizing geography, mathematics and history. We are trying out methods that are designed to put life into the course of study; to confront the student with some of the problems that he will meet in the outside world; so the socialized recitation, the use of current topics, the problem-project and other variations have become a part of class-room procedure. Injecting life into the method has resulted in student activity with the consequent retirement of the teacher as the important figure in the recitation. Certain American characteristics such as self-reliance, initiative, industry, resourcefulness, farsightedness are being developed through such activity. Can this be done in the teaching of history, not in an abstract way, but in the "learning by doing?"

The laboratory method suggests "learning by doing." The spirit of investigation is present and all the powers of the investigator are called together to solve the problem at hand. There is a purpose in view, something worth while to be done. Activity on the part of the investigator results in progress toward a definite goal.

A study of the laboratory or problem-project method discloses a wide and varied use of the term. Educators do not seem to agree upon any one definition nor upon the possibilities of the method in solving the teaching problems of today. Mr. John Alford Stevenson in "The Project Method of Teaching" suggests that the working out of a problem requires reasoning and, to be a real project, it must have a natural setting. His definition for a project is "a problematic act carried to completion in its natural setting." As examples of real projects he gives one from household science;—a student is required to assume the responsibility for the purchase and preparation of the meals at home for a period, with the understanding that they be well-balanced. Another example is taken from agriculture where the boy is required to tend the poultry for at least one year for the purpose of testing productivity in laying. Both of these problems were worked out in natural settings and involved reasoning.

It is significant that among the books listed in the bibliography at the back of "The Project Method of Teaching" there were forty-nine devoted to agriculture, eighteen to domestic science, sixty-three to vocational schools, sixty-four to general educational theory, twenty-two to science, ten to modern language, two to geography and one to history. It is evident that the natural setting described in the definition does not apply in every case.

Mr. McMurry in "Teaching by Projects" speaks of two kinds of projects. In one the boy constructs a table or some other piece of furniture because of a felt need or desire, while the girl makes a dress for the same reason. The second class is vague in character, it seems to me, for the boy makes some great project, such as the Panama Canal, his own, and lives through the problem involved in the construction of that great waterway.

Dr. Slutz of the Moraine Park School, Dayton, Ohio, speaks of the various projects worked out by the students in that school. Each has been created and put on a working basis by the students themselves,—an insurance company, a book-store, a lunch-room, a law firm, secretarial work, managing social affairs.

According to McMurry "these project-problems, expressing the strains of thought and effort to master the forces of environment, lead more directly into life conditions as they are than any other studies."

Some history teachers have attempted to develop the idea of the project by having the younger students work out a model of the feudal manor. The girls of the class have dressed dolls to illustrate the dress of the period. Whether these acts are purposeful or whether they are worked out in a natural setting is a question. They do not seem to be real projects.

The problem, as understood by many teachers, seems to be better suited to history teaching. Reasoning is required to solve the problem if it is well stated. Clear thinking, resourcefulness, self-reliance, all may be expressed by self-activity on the part of the student, in solving these problems. He gains a certain pride in achievement also.

Mr. Tryon, in "The Teaching of History in Junior and Senior High Schools" suggests that "there are four phases in the process of teaching a problem in history. They are (1) stating and defining the problem; (2) suggestions as to its solution and their evaluation; (3) collecting, tabulating and organizing material; (4) drawing conclusions based on the material."

Two examples taken from the Historical Review for October and November, 1921, will illustrate this type of problem. Miss Regina Zimmerman of the Chicago Schools planned the first and O. H. Gibson of Rockford, the second.

I. Stating and Defining The Problem.
   1. Statement of the problem.
      A. "Were the French or English better suited in the final analysis to win supremacy in the New World?"
   2. Definition of some of the terms.

II. After a discussion as to the ways of solving the problem these points were listed as worthy of study.
   A. Location.
   B. Population.
   C. Government.
   D. Religion.
   E. Motives for Colonization.
   F. Manner of settling.
   G. Industries.
   H. Relation with the Indians.

III. The collecting and organizing of material was worked out in the form of an informational outline worked out co-operatively by the class.

I will take just one step for illustration.

I. Location.
   1. French.
      A. Located along the waterways of Canada, the Mississippi, and Gulf Coast. Territory twenty times as great as that of the English.
      B. Location of Quebec—strategic from military standpoint, but because of ice floes in St. Lawrence, difficult to get in touch with mother country.
      C. Effect.—Large territory to protect, and distance from base of supplies.
   2. English.
      A. Compact territory along Atlantic Coast from Maine to Florida and back to Alleghanies.
      B. Effect.—Comparative ease of protection and access to mother country.

IV. After classifying the data which the class had gathered the following conclusions were drawn.

1. English better prepared through:
   A. Location.
   B. Population.
   C. Religion.
   D. Motives for Colonization.
   E. Manner of settling.
2. French better prepared through:
   A. Government.
   B. Relations with the Indians.
3. Effect of industries was about equalized.
4. Conclusion.

   The French seemingly had the advantage at first; but greater unity among the English colonists and adjustment of the Indian relations, joined with their other good points would prove that they had the "staying qualities" to win supremacy in the New World.

O. H. Gibson states the following problem and uses somewhat the same plan that Miss Zimmerman does.

Assignment of problem: That the advantages of the policy of imperialism among nations during the nineteenth and twentieth centuries outweigh the disadvantages of this policy for the world.

In the recitation the organization of the material gathered by the students is accomplished through team work, each member contributing his part. Then the class as a whole works out the final classification.

In the work in the American History Classes at East High School, Aurora, we have used comparison charts in which the elements of a problem were to be found. With the same idea in mind, that of stirring the thinking power of the students, we have assigned such problems as the following:

"History lies not near but in nature." It is a quotation but it serves a purpose when the exploration and settlement periods are under discussion. The titles of books and chapter headings can be used as thought questions very effectively.

In searching for ways of making the class work more effective and of developing self-activity on the part of the student, I became very much interested in the problem-project method as described by the men and women who regard it of such importance today. It probably is not absolutely essential to good teaching, because a resourceful teacher can get results using any method, but there are good points in this method and discussion might be very useful.

Life is made up of problems and if education is life itself what is more appropriate than the development of a method that will make the problem-solving habit a part of the student's equipment? Can this be done in the teaching of history?

## A Definition of Civics, Including a Course of Study for Secondary Schools and in Accordance therewith Proposed by a Committee of the American Political Science Association---R. B. Tozier, Champaign

As civics was originally taught in the high schools, it included only a study of the fundamentals of American Government. In the past few years, however, the scope of civics has broadened until in includes subject matter belonging to the various social sciences, history, economics, sociology and even ethics, while the subject matter which may be considered fundamental to a course in civics, the frame-work and functions of American Government, is often not emphasized, and is frequently pushed into the background. What has been the result of this tendency to cover such a wide area of subject matter? We can safely answer, lack of thoroughness in the presentation of the subject. The student acquires no definite knowledge of facts, that are essential to his development as an American citizen. He has but a smattering of many things, none of which make a lasting impression upon his mind.

In the light of these facts, may we not say that we have carried too far the broadening of the scope of civics? This does not necessarily mean that in teaching civics we should confine ourselves strictly to teaching the framework and functions of government. In teaching civics, we should strive to give the student a conception of his place in society, and his responsibility as a citizen of this great nation and commonwealth in which he resides. He should know something about the factors which make up this great governmental organization of which he is an integral part. He should know concerning its institutions. Regardless whether we study transportation, commerce, banking, finance, labor problems, care of the poor, or any of the vital problems of our life to-day, we must necessarily consider governmental organization, its methods and policies, as a very important factor. The road to all enterprise must pass over the bridge of governmental organization and method.

When we realize this fact we can better give to civics, as a subject in our secondary school curriculum, a definite aim and scope. There is not time in the one semester period, usually alloted for the study of civics in our high schools, to cover the whole field of government, economics and sociology. If we attempt to do this, our work will result in a lack of thoroughness, as we pointed out above. In all our work as high school teachers, we should strive first of all for thoroughness. If we can not teach a subject thoroughly we should not teach it at all.

We shuld strive to impress upon the minds of our students that they are citizens; that they are members of this or that community, and as such each will have a civic duty to perform. We should try to show them just what are their rights and privileges as citizens. We should seek to interest them in the vital problems of the day. We can do this without carrying on any social or political propaganda. This we must avoid. There are some issues under controversy which we can not side-step but even in considering these issues, we can realize our purpose without permitting the discussion to degenerate into such propaganda.

A committee was appointed by the American Political Science Association to study this problem of civics to-day, and to define civics and give it a definite scope. The report of the committee, upon which this discussion has been based largely, has not been accepted by the Association as yet. This committee observed three tendencies prevalent among civics teachers of to-day. The first tendency, they say, is to "dispense with the use of the text book, and supplanting it by socialized recitations; 'field work,' and visits to public institutions."

They point out that there is danger of going too far and quote from the report of the Committee on Social Studies of the National Education Association as follows: "there may be exceptionally equipped and talented teachers who can

do better without a text book than they would do if they followed explicitly any existing text. Even such teachers will be more successful if their pupils have in their hands a well planned text; and the great majority of teachers are not prepared to organize courses of their own. The teacher who is not able to use a fairly good text and to adopt it to the needs of his pupils to their great advantage can hardly be expected to be capable of devising a course independently of a text that would compensate for the loss of the best books available."

The second tendency noted by the committee was that of giving "preference to text books which lay special emphasis upon political, social, and economic conditions in the immediate neighborhood. There is always a danger, however, that in the zeal for acquainting the pupil with the conditions of his own community the larger life of the state and nation may receive inadequate attention."

The committee pointed out lastly that there is a tendency on the part of school authorities "to drop the general study of American Government out of the curriculum altogether, putting in its place a course in 'Problems of Democracy' or 'Social Studies' or something of the kind. This action is based on the idea that high school pupils should be brought directly into touch with the live problems of the day." The committee, in commenting upon this idea, was of the opinion that "no effective instruction in the problems of democracy can be imparted to high school pupils unless they are given an adequate back-ground through the study of governmental organization and functions." It seems as if there should be room in the high school curriculum for a course in civics which would be followed by a course in social problems. This would, as it were, clear the atmosphere and help us to realize the objectives in the teaching of civics for which we are striving.

In concluding its report the committee appended an outline which indicated in a general way the outside limits of the scope of a course in high school civics. They have estimated that such a course would require one hundred teaching hours exclusive of the time for reviews and examinations.

## OUTLINE.

PART I—THE AMERICAN ENVIRONMENT.

| | |
|---|---|
| I. | Man and society. |
| II. | The United States as a field for human development. |
| III. | The people, races and racial problems of the United States. |
| IV. | The American home and community. |
| V. | Economic factors and organization. |

PART II—THE FOUNDATIONS OF GOVERNMENT.

| | |
|---|---|
| VI. | The nature and forms of government. |
| VII. | The citizen; His rights and duties. |
| VIII. | Popular control of government. |

PART III—THE ELECTORAL SYSTEM.

| | |
|---|---|
| IX. | Suffrage and elections. |
| X. | Party organization and machinery. |

PART IV—LOCAL GOVERNMENT.

| | |
|---|---|
| XI. | Counties and rural communities. |
| XII. | City government. |
| XIII. | Municipal problems of today. |

PART V—NATIONAL AND STATE GOVERNMENT.

| | |
|---|---|
| XIV. | The National constitution. |
| XV. | Congress at work. |
| XVI. | The President and his Cabinet. |
| XVII. | The courts and the law. |
| XVIII. | State government. |

PART VI—THE CIVIC ACTIVITIES.

XIX. The public domain and the territories.
XX. The agricultural interests.
XXI. The encouragement and regulation of commerce.
XXII. Industry and labor.
XXIII. Currency, banking and credit.
XXIV. Public finance.
XXV. Public utilities.
XXVI. Education.
XXVII. Public health.
XXVIII. Poor relief, correction and other welfare problems.
XXIX. National defense.
XXX. Foreign relations.

PART VII—WORLD PROBLEMS AND RECONSTRUCTION.

XXXI. The United States as a world power.
XXXII. The league of nations.
XXXIII. Problems of reconstruction.

## Practical Method of Teaching Current History

**Ruth Sandeson, Danville**

Many arrows of adverse criticism are being shot into the field of Current History. The excuse for being of this paper on a process of teaching it is to provide a definite target against which these arrows may be directed instead of scattering them over such a wide range.

There are those who believe Current History is full of pitfalls and should not be taught. It is from that group of objectors that we who believe in it expect the criticism which will do us the most good since the critics know our most pernicious faults. Some of their objections to Current History are:

1. The historical sense is blunted instead of sharpened since little attempt is made to separate fact from fiction.

2. Partisanship runs rampant.

3. Much time is spent on a miscellaneous group of subjects which are left disorganized in the students' minds. This "hash" gives him mental indigestion and retards assimilation of real historical food.

In presenting a process of teaching Current History I shall try to show that these faults may be overcome. By all means we, as teachers, should place the emphasis upon history, not upon current events. The majority of the people think in terms of current events—an attitude tending to inaccuracy, partisanship, and snap judgments. We do not wish to cultivate that attitude on the part of our students. Instead we must recognize at the outset that the material to be handled calls for great care, otherwise we will cultivate those very characteristics which we condemn.

I shall try to confine myself to the subject of "methods" and not wander over into the field of "values" of Current History. To do so would liken me to the student in the public speaking class at the University of Chicago. The story has become a classic and you may have heard it many times. The student rose and walked to the platform where with the utmost confidence she announced the subject of her three minute speech as "Man and the Universe." Man is a subject of great enough importance to merit three minutes without including the universe. My subject is, "Methods of Teaching Current History," not "Method and Value." Yet to divorce the two completely seems almost an impossibility.

The method of having current events introduced into a lesson to illustrate some subject under discussion is time honored. The majority of civics and his-

tory teachers do that much at least. The student is not required to be able to discuss the current situation. In fact the teacher usually assumes he knows little about it and the reference to the present day happening is a monologue by the teacher. Few, even of those opposed to Current History object to this incidental reference. Such a method, although it may be thoroughly worthy, I do not consider sufficiently intensive to be called "Teaching Current History."

The first day one begins with a new class I consider the logical day to start on current history. The students either have no books or have just bought them. Often there descends that curse known as "Delayed Shipment of Books" or "Not Enough Copies." A Current History lesson solves the situation. Furthermore one gets the students at the psychological time. But most important of all one begins filling in the background for an appreciation of historical criticism.

To be definite: On the first day I begin with the subject of "What is Source Material?" The question may be asked, "One hundred years from now what will the historian who writes a History of the World War use for his material?" Newspapers will be suggested. You can hear a class, in your mind's ear, discussing that point. The question will rise concerning the reliability of associated press reports, the opportunity that special reporters have for getting the truth, the policy of the paper, the propaganda, partisanship, the complete account of both sides that may be given. As source of material what is it worth?

It seems to me there is a golden opportunity to begin teaching sensible newspaper reading as well as to provide an opportunity for critical evaluation of historical material. Two days recitation can easily and profitably be spend on that subject. The complete "New York Times" can be compared with poor papers. The papers should be there in the class-room. Some progress can be made in getting the students in small places interested in metropolitan dailies showing their superiority over the village daily or weekly. Of course, one's diplomacy or good sense must guide him in such work. I have taught in a small place and I know the lack of acquaintance those students have with what is going on in the world. And it is true in all schools to a surprising degree even where the Chicago papers are constantly in the homes of the students. The Literary Digest, in one of their advertisements, said, "What would you say if your students identified Lloyd George as King of Ireland, Samuel Gompers as a poet, and Charles E. Hughes as ex-President Wilson's secretary?" It has been my experience that those answers are not as ridiculous as many. The only way to overcome that situation is to have the students read the magazines and newspapers, and the only way to get them to read is to make it part of the class work. That acquaintance with world events is the by-products of the whole year's work.

But the first day made the beginning by turning to a definite issue, namely, source material. The second day can well continue that subject using for discussion magazines, letters, official reports and books written by participants or interested observers. The same question may well be asked, "One hundred years from now in writing the History of the World War what can be learned from reports that statesmen living then made?" "What official reports would the historian use?" "Would English and German official reports differ?" "Why?" "Of what value are letters?" "Do we find them in our 'source books'?" Those are a few of the points that may be brought up to emphasize the selective process involved in getting at the truth. I think it serves two good purposes: 1) that of preparing for Current History; 2) it prepares for a study of the history text itself. I had the very good fortune to be in one of Prof. Henry Johnson's classes. The use that he made of source material was a constant revelation to me. By its use he got a reaction from the class as to historical values. I quote from his book, "The Teaching of History," (P. 359):

"Training in the historical method of study is a somewhat formidable expression difficult to disassociate from university work. . . . Certainly the search for material, the classification and criticism of material, the determination of particular facts, the selection and arrangement of facts—all present elementary aspects.. . . .

"Those who are aware of the possibilities have sometimes gone the length of declaring that history, as early at least as the high school, should be habitually and almost exclusively, presented as a process of establishing, selecting, and organizing facts. This is the source method in its extreme form. The more conservative view—is that the greater part of school history must be presented as ready made information, but that there should be illustrations of the historical method sufficient to indicate the general nature of the problems behind organized history, and sufficient to give some definite training in the solution of such problems. How shall this be accomplished?"

If all agree that such historical training is desirable, the issue is partially resolved into a consideration as to the wisdom of studying current history sources which are so close at hand. In the process I have suggested of beginning with a study of contemporary sources one way, to use Prof. Johnson's words, "indicate the general nature of the problems behind organized history." The tendency would be for the students to become less partisan and to recognize the need for suspended judgments.

After having spent several days introducing this material to be used in studying Current History the further amount of time spent should be small. There is, it seems to me, a very good argument against using any specific day of the week. To be bound by an unwritten law or custom that Monday be devoted to Current History is to face several unnecessary difficulties. In the first place there are some weeks when the Current History does not merit the time or when desirable material is not available in the magazines or newspapers. Secondly, there are times when one is in some particular period of history where the continuity of the discussion and the development should not be broken.

On the other hand the idea of constant attention to the events of present day importance must be kept before the students. Unless there is some check on them the students will not keep up the daily reading. In order to prod them along I advocate the plan of holding the students responsible each day for a brief statement of a current event of importance. This should not take more than two or three minutes. No one should know when he is to be called upon and only one current event should be mentioned that day. When this one is given the teacher should indicate definitely if the students are to follow up the subject for a more complete discussion later. Thus from the medley of events a few are given chief importance and the student knows continued reading will prepare him for a lesson later. At some convenient time the assignment may be made that two particularly assigned subjects are to be discussed. All students, as far as is true in any class, have done some reading on these topics for two or three weeks.

As preparation for the lesson they are to make a brief outline or table of

1) the most important factors of the situation.

2) the position each side has taken.

3) the most reliable source for information.

4) questions.

Discussion follows but no further papers are required.

In teaching Current History I have used the same method in my Civics classes as in my American History classes. However if I use Current History in one class I do not use it in the other. Furthermore the type of subjects selected for discussion in the particular classes would differ.

Throughout my discussion I have indicated that no one particular magazine or newspaper be used. This, as you see, is basic in the plan I advocate because it gives more consideration to the sources of our material. In addition it leaves one freer to use any desirable time and subject; it eliminates the problem as to the use of magazines in the study hall; and also it causes less conflict with the English teacher's plans. However, the use of current events in both English and History classes is an administrative problem. As a history teacher I contend we

have a duty in studying magazines and newspapers. We can build our historical house to serve as a corrective institution for those evils I have mentionel so often —inaccuracy, partisanship, and snap judgments.

Thus the plan I have offered for your criticism includes:

1. The Introduction of the Course by a discussion of source material. This involves a study of
   a. The newspaper.
   b. Magazines
   c. Official statements
   d. Letters
   e. Books by participants or interested observers.
2. Emphasis upon the prevalence of partisanship and an encouragement of suspended judgments.
3. A brief mention every day or two of one event of importance.
4. A selection of subjects for more intensive reading.
5. The selection of some day for the discussion of these subjects on which the students have been reading and on which they have made a brief table.
6. No specific magazine is employed.

By such a process one may hope 1) To have students who will be awake to the political life of the present day and will not call Lloyd George King of Ireland or Samuel Gompers a poet; 2) To teach historical mindedness by leading to an appreciation of source material; 3) To make some progress against partisanship which throws its insidious spirit around all political and economic questions.

Are those worthy historical aims? Will the simple process I have sketched through make any progress toward them? That is the question I leave to you.

## Discussion of Miss Sandeson's Paper on Teaching of Current History

### By Miss Laura F. Ullrick, New Trier Township High School

One good thing that has come out of the World War is an interest in, and a desire to understand, the present as well as the past and a demand that the schools should fit for this understanding. As a result has come a close scrutiny of the school curricula and a testing of their relation to the present. The History and Civics course underwent a rigorous inspection along with the others, both by teachers and patrons.

History has often been accused of being dead and the question, "What good will all this do me?" has sometimes been hard to answer convincingly. The outbreak of the World War involving from the beginning some nationalities, the existence of which was not even known to many, the spread of the conflagration to involve the United States, led many to question what it was all about. The answer took one back into history. Throngs would go to hear the historian explain the roots of the war and other multitudes would buy and read his books. The historian realized that the lack of his subject had been connection with the present and that such connection could be made, while the laity realized that history had a use.

So about 1914, many history teachers began experimenting with current events in the class room. The methods have been various. Some have watched for contacts with the present through current magazine articles, literary or artistic allusions, or for possible comparisons between the situations of the past and those of the day. Others have devoted one or a part of a period a week to the study and discussion of current events of every sort, no matter what the field of history

being studied. A third group has dared to establish a course devoted entirely to the study of current history.

The first method brings excellent results but is a very incomplete survey of the present. It simply vivifies the past. The second seems an abuse of current events in a history class. It is difficult to justify a discussion of President Wilson's speaking tour in behalf of the League of Nations, Mr. Brandeis and the Supreme Court, a new sea code, Conscription in England, the defense of Egypt, and the relative advantages of city and country life,—all in thirty minutes taken from an ancient history recitation, as one teacher reports was done in 1916. (See *The History Teacher's Magazine for March*, 1916, p. 97.) In the first place how *could* so many subjects be *discussed* in thirty minutes with good results? Secondly, how can clearness and continuity of thinking be attained by any such hop, skip, and jump method? The only subject which had any connection with the course was the defense of Egypt, which might have been used to vivify the lesson.

The third method seems the logical one if it is desirable to teach current history at all, and if anything like an intelligent understanding of some of the happenings of the present is to be the result. That the citizens and voters of this nation should have such an understanding is one of the most urgent needs of the day. With our great state of Illinois in the grip of one of the most unscrupulous political machines in history, with millions of our people still believing it impossible to stop war and refusing to believe that unless it can be stopped this civilization will commit suicide, with the problem of race, of immigration, and of socialism all pressing for solution, with every wrong decision at the polls and every blunder of Legislature or Congress bringing in its train greater disaster because of the increasing numbers affected in our own country, and our unavoidable contacts with foreign nations, with no protection against such wrong decisions and blunders except the ballot, it has become imperative that the voter shall think and think intelligently.

Last year the Review of Reviews conducted a nation-wide examination on current events in every sort of school which would take it up. It was a fair test asking about the most obvious persons, places and subjects of the day. The highest average was made by college juniors and seniors but that was only sixty per cent. Three thousand high school graduates averaged fifty-three per cent. In the light of these records, it is not difficult to guess what would be the average of the ordinary voter.

Moreover, it is not sporadic interest which is needed, which when voting time comes grabs the first article at hand, reads and adopts its opinion unquestioned, nor partisan interest, which takes one point of view as gospel because it is advocated by some one political party, or individual or periodical. What we need and must have is a larger body of voters whose opinions are formed slowly as a result of knowledge of the historical background if there is such, of long and continuous reading, discussion, and thinking from the time the question came forward. Such an understanding requires a knowledge of where sound information may be secured. Anything like an adequate satisfaction of such needs can be attained only in a course in current history which shall acquaint the student with the events and problems of the day, with the various periodicals where they are discussed, and with the way to find out the political, historic, or economic background.

There is a wealth of material for such a course. The temptation to scatter too much is great and selection of material and subject is the largest problem for the leader. Four magazines, seeing in this movement an opportunity to render a public service, and to increase their circulation are now preparing for each number guides and suggestions for the teachers of current events. The *Outlook* sends each week a leaflet with suggestive questions and references for supplementary reading. The *Independent* has a series of questions in the back of each number. The *Literary Digest* sends a leaflet each week for both English and History study. The *Review of Reviews* sends extensive studies with each

number and semi-annual tests. It should be possible to work out a good course with either of these magazines as a basis. They all offer excellent student rates.

The student should be asked to purchase some one magazine to be used in the manner of a text book. As many more as possible should be secured for supplementary reading. One of the most valuable results from the course should be the realization that there are always two sides to every public question and a desire to know and judge between these two points of view. The *Independent*, the *Outlook*, the *Literary Digest*, the *Nation*, the *New Republic*, the *Survey*, the *Review of Reviews*, and the *World's Work*, make a good combination for from these one can gather practically every point of view. It is good class exercise to discuss, weigh, and try to decide which point of view has the best support from fact and logic. The course needs for reference purposes a good encyclopaedia, the Daily News Almanac, the Statesman's Year Book, The Illinois Blue Book, Who's Who, (both in America and abroad,) a good general book on economics, political science, and each field of history. Bound magazines are very useful. For example, the recent flurry in North Dakota called for a review of the circumstances under which the Non-Partisan League gained control of the state. Such a supply can be built up as a result of the current events course. There is also needed careful and wide preparation on the part of the teacher. No one whose aim is to draw the largest salary for the least possible work should never undertake to teach the subject. But from no other does the teacher reap so large a profit of information and training by experience.

The method of attack is of necessity topical. The time given to each topic depends entirely upon its character. Some, such as the relations of England and Ireland require at least a week of preliminary reading and study by way of introduction for there is so much of historical background. Others, as the recent revival of the Ku Klux Klan, can be covered in a day or two. After a topic has been discussed in class it is turned over to some member for follow up purposes. A report is taken each week as to whether any new material has been found. When a subject is finished, as the strike in West Virginia, or the Unemployment Conference, a final outline and report is given to be kept in notebooks. Lists of names, places and terms are kept for review and drill purposes. Frequent tests show progress or lack of it.

The chief criticism of the course is that it is scrappy in character. But if carefully worked out and organized, the subjects need to be more varied in character than an elementary course in physics. The chief pitfall for the teacher is the temptation to teach his own opinions. This of course must be carefully avoided on political questions especially, and the student lead to formulate his own opinion with his reasons.

From no other class come so many gratifying reactions. The interest is always good, and the period too short. Very frequently it is discovered that some family has subscribed to one of the magazines on our list when they had heretofore read no magazine of that character. Children are delighted when they find they understand more of what their elders are talking, and parents are pleased to have their children intelligently interested. Another attractive feature is that teachers and students work at this more nearly on the same basis and as fellow students, for the teacher is also studying the situation.

THE UNIVERSITY OF ILLINOIS

THE STATE UNIVERSITY

Urbana

DAVID KINLEY, Ph.D., LL.D., President

---

**THE UNIVERSITY INCLUDES THE FOLLOWING DEPARTMENTS**

**The Graduate School**

**The College of Liberal Arts and Sciences** (Ancient and Modern Languages and Literatures; History, Economics, Political Science, Sociology; Philosophy, Psychology, Education; Mathematics; Astronomy; Geology; Physics; Chemistry; Botany, Zoology, Entomology; Physiology; Art and Design)

**The College of Commerce and Business Administration** (General Business, Banking, Insurance, Accountancy, Railway Administration, Foreign Commerce; Courses for Commercial Teachers and Commercial and Civic Secretaries)

**The College of Engineering** (Architecture; Architectural, Ceramic, Civil, Electrical, Mechanical, Mining, Muncipal and Sanitary, and Railway Engineering)

**The College of Agriculture** (Agonomy; Animal Husbandry; Dairy Husbandry; Horticulture and Landscape Gardening; Agricultural Extension; Teachers' Course; Home Economics)

**The College of Law** (Three-year and four-year curriculum based on two years and one year of college work respectively)

**The College of Education** (including the Bureau of Educational Research)

**The Curriculum in Journalism**

**The Curriculums in Chemistry and Chemical Engineering**

**The School of Railway Engineering and Administration**

**The School of Music** (four-year curriculum)

**The School of Library Science** (two-year curriculum for college graduates)

**The College of Medicine** (in Chicago)

**The College of Dentistry** (in Chicago)

**The School of Pharmacy** (in Chicago; Ph.G. and Ph.C. curriculums)

**The Summer Session** (eight weeks)

**Experiment Stations and Scientific Bureaus**; U. S. Agricultural Experiment Station; Engineering Experiment Station; State Laboratory of Natural History; State Entomologist's Office; State Water Survey; State Geological Survey.

The library collections contain (October 1, 1921) 503,297 volumes and 118,305 pamphlets.

For catalogs and information address

THE REGISTRAR,
Urbana, Illinois.